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EDITORS:

NICHOLAS MURRAY BUTLER
E. H. COOK
WILLIAM H. MAXWELL
ADDISON B. POLAND

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EDUCATIONAL REVIEW

JANUARY, 1896

I

THE ROYAL COMMISSION ON SECONDARY EDUCATION

The principal educational event of the autumn in England has been the appearance of the report of the Royal Commission. It may be remembered that in 1864–68 a commission was engaged in investigating the condition and resources of intermediate and higher education in England, and especially the state of the endowed grammar schools; many of which had been established in the fifteenth and sixteenth centuries for the purpose of giving instruction in Latin and Greek, but had fallen into a lamentable state of decay and uselessness. That commission was presided over by Lord Taunton, and included in it men of the highest distinction in Church and State,—Lord Lyttelton, Mr. Forster, Dr. Temple (now Bishop of London), Lord Stanley, Sir Stafford Northcote, and Dean Hook,—while among the assistant commissioners were Dr. Fraser, Mr. Matthew Arnold, and Mr. Bryce. Their report was exhaustive and statesmanlike, and had a profound influence on public opinion. The detailed evidence, statistics, and *pièces justificatives* extended to twenty volumes; but the first volume, containing the report and recommendations of the commissioners, is still regarded by all experts as the most trustworthy summary of the history of secondary education up to 1866, and as a document of unusual merit, whether regarded as an exposition of principles or as a compendium of practical suggestions.

Nevertheless, except the enactment of the statute of 1869, which provided a permanent authority for the reorganization of educational endowments, no legislative step has been taken to carry into effect the recommendations of the commissioners. Meanwhile, many new agencies have been called into existence. The universities have shown great activity in helping secondary schools by means of their examinations for pupils and teachers, and also by their "Extension" lectures. The Science and Art Department has applied large annual sums to the encouragement of special studies. New provincial colleges of university rank have sprung up at many of the chief centers of industry. The Girls' Public Day School Company and other proprietary bodies have familiarized the public with schools of a higher and more liberal type; professional associations have been formed, with a view to secure higher qualifications and a better status for teachers; the county councils have been intrusted by Parliament with large sums for the promotion of technical education; and the Education Department itself, though legally concerned only with the administration of a large annual grant for *elementary* education, has of late interpreted its obligations in a very liberal spirit, and by the encouragement of higher grade board schools for pupils from fourteen to sixteen years of age, who have completed the ordinary elementary course, has done much to meet the demand for advanced studies on the same lines, and so encroached, in some respects, on the domain of secondary instruction.

In these circumstances, it has been generally felt that, after an interval of nearly thirty years, there was room for a further inquiry, which, taking the report of 1868 as its basis, should deal historically with the subsequent development of secondary instruction, and should furnish practical recommendations respecting the measures which were desirable for its future extension and improvement.

Accordingly a Royal Commission was nominated in March, 1894, with instructions:

"To consider what are the best methods of establishing a well-organized system of secondary education in England, taking into account existing deficiencies, and having regard to such local sources of revenue from endowment, or otherwise, as are available, or may be made available for this purpose, and to make recommendations accordingly."

There were at the outset some who expressed disappointment at the constitution of the commission. They compared, not very favorably, the *personnel* of the new commission with the eminent men who had served with Lord Taunton in 1865. They dwelt on the fact that accident had placed the responsibility of framing the list in the hands of a vice-president of the council who was comparatively new to official life, who had adopted a less satisfactory principle in selecting the members, and had, in fact, packed the commission with advocates, rather than with judges. Except Mr. Bryce, the chairman, it was urged, there was no one of the statesman's rank, and no one intimately conversant with the work and procedure of the former commission. Almost every other member was a representative of some professional class, some party or institution. The members comprised representatives of Oxford and Cambridge, of the school boards, and of the county councils, the head-masters of a first-grade public school and of an intermediate school, representatives respectively of elementary teachers, of the teachers of science and of technical schools, besides three ladies, specially conversant with colleges and schools for girls. Every one of these, indeed, was judiciously chosen on the theory adopted by Mr. Acland; but, in one sense, each might be described as holding a brief for some special class, and none were in a position of detachment from sectional interests, or specially qualified by official experience, or otherwise, to take a large and general view of the problems which had to be solved. And some regret was also expressed that, even on the supposition that all the interests affected were entitled to a voice, the representation was imperfect; seeing that no private teacher was included in the list, and that all representatives of the churches and of religious societies were conspicuously absent.

Such criticisms, it ought to be said at once, have, however plausible at first, been to a great extent disarmed by the result.

The report now issued is a thoroughly creditable and workmanlike performance, and has the unusual merit that it is unanimous, and unencumbered with minority reports, reservations, or qualifications. The commissioners held 105 meetings, examined 85 witnesses, issued elaborate schedules of questions, instructed assistant commissioners to prepare reports, and have devoted themselves to their task with a skill, diligence, and breadth of sympathy which are entitled to high commendation. Their narrative of the course of events since 1868, and their analysis of the complex, heterogeneous, and often overlapping agencies at present at work in the wide field of secondary education are luminous and accurate; the practical suggestions are bold and comprehensive; and in regard to literary finish and attractiveness, the whole report, though hardly equal to its predecessor, is distinctly above the average of official documents.

American readers, however, who are in search of new educational theories, or of original discussions on the aims or methods of secondary instruction, will not find them in these volumes. There is, for example, no such investigation of the educational values of different studies as is to be found in the two important reports by the Committee of Ten and the Committee of Fifteen; which have received, as they deserved, such general acceptance in the United States. Indeed, the commissioners at the outset modestly disclaim any pretensions to enter upon such topics. They say:

"The terms of our reference have been understood by us to confine our inquiries to the organization of secondary education, and not to include either an examination and description of the instruction now actually given in secondary schools, or a consideration of what subjects such instruction ought to cover and by what methods it should be given."

In pursuance of this intention the commissioners first devote a large space to a full and careful description of the present condition of secondary education in England. They show that the existing provision includes endowed grammar schools, proprietary schools, higher grade elementary schools, and private schools; that it is unequally distributed over the country; that in some places the supply of secondary education is inadequate, and that institutions of these various kinds exist independently, without correlation or organic unity. The commissioners proceed to enumerate the various public bodies which, in their several ways, exercise influence over secondary education—the Charity Commission, the Science and Art Department, the county councils, the Education Department, and the universities. A careful inquiry into the functions and limitations of these several bodies leads to the conclusion that there is considerable activity, and evidence of increasing public demand for advanced teaching; but that there is also some waste of resources, owing to the absence of due *rapport* between the various bodies concerned; and to the want of any central public authority which shall have cognizance of the entire field of work.

Incidentally the commissioners refer to one or two particulars in which recent years have witnessed a considerable change in public opinion and social habits, and have to some extent simplified the problem which has to be solved. One of these changes may interest American teachers all the more because the sense of republican equality has, with them to a far larger extent than with us, facilitated the mixture of different social ranks in the common school. On this point the commissioners say:

" How far pupils of different social classes can be successfully taught in the same school is still a problem of secondary education with many different phases. It is one which the Schools' Inquiry commissioners fully recognized, and which, in some cases, they even regarded as insoluble. Thus, when they remark that ' in a small town dealing with its own limited population, the inherent difficulties of combining a thorough classical with a thorough commercial education appear insurmountable'; the first reason assigned is ' sensitiveness on the subject of mixture with boys from lower ranks of society because they are neighbors as well as schoolfellows.' In the interval of twenty-seven years which have elapsed since these words were written, the social difficulty, as it is sometimes called, has become less on the whole in many places, partly through general social causes, partly through causes connected with the newer development of education. . . Speaking generally, it is at great centers of population, especially in the north of England, that the social difficulty most decidedly tends to diminish. In many small towns and rural districts it still exists in considerable strength, and is likely to die hard. . . As might have been expected, the resolve to avoid contact with social inferiors is usually most inflexible where the social distinction is narrowest."

Among other symptoms of the improved state of public opinion since 1868 the commissioners refer to the greatly increased demand for the means of liberal education for girls, the more general recognition of the need for the professional training of teachers, the recent rise of university colleges in the great provincial towns, and the higher value now set on technical and scientific instruction, not as distinguished from literary studies, but as necessary and integral parts of secondary education. On a review of all these phenomena the commissioners say:

" The problem which the facts suggest is more easily stated than solved; it is, in a few words, how to provide a single central authority which shall supervise the interests of secondary education in England as a whole; to provide local authorities representative in the most complete sense, which shall in their respective areas regard those interests with a similarly comprehensive view; and reserving a large freedom for such local authorities, to reconcile the ultimate unity of central control with a system sufficiently elastic to meet the almost infinite variety of local requirements."

The first of the practical recommendations with which the report concludes, relates to the constitution and work of the *central authority*. This should, they say, be a department of the executive government presided over by a minister responsible to Parliament, and obviously the same minister to whom the charge of elementary education is intrusted.

This minister should have the oversight of all the work now done by the Charity Commission so far as the administration of the Endowed School Acts is concerned, and also of the Science and Art Department. In brief, the functions of the central department "will include a general oversight of the acts of such local authorities as may deal with secondary education, the supplying of information and advice to those authorities, the power of framing or approving schemes for the reorganization of endowments and rules for the application of public funds, the deciding of appeals from local authorities, together with some measure of jurisdiction over those important educational foundations which, being used by the country generally, cannot properly be subjected to local jurisdiction. And to these duties will be attached that of framing and maintaining a register of qualified teachers." It is assumed that most of the work to be assigned to the Education Department, thus expanded, would be dispatched by the minister and his departmental staff in the usual way. But it is further proposed that there be created an Educational Council, analogous in some of its functions to the Board of Admiralty and in others to the General Medical Council; to advise the minister in relation to certain professional questions, and, in particular, to have charge of the registration of teachers.

The constitution of the proposed advisory council is easily described. The commissioners think it should be small, not exceeding twelve members. Of these, they propose that one-third shall be appointed by the Crown, one-third by the four Universities of Oxford, Cambridge, London, and Victoria, and one-third co-opted by the rest of the Council from among experienced members of the teaching profession.

On the more difficult question of the *local authorities*, their constitution, the areas of their several jurisdictions, and their educational functions, the commissioners have much to say. They are evidently conscious that this is the one of their recommendations most likely to provoke discussion. For the duties assigned to the proposed local authorities are large and multifarious, and will include the power to impose, when necessary, a local rate. The report recommends that there shall be created a local authority for secondary education in every county and in every county borough, that is to say, speaking generally, in all boroughs with a population exceeding 50,000. The size of these county authorities should vary according to the population, but should not, in the opinion of the commissioners, be less than 14 nor more than 42. Taking 28 as the number for one of the larger counties the composition of the body would be as follows: 16 chosen by the county council, 4 nominated by the central office, and the remaining 8 co-opted by the other 20. It is prescribed that several of the nominated and co-opted members should be actually or recently engaged in teaching.

For the metropolis, with its vast population of nearly 5,000,000, and its exceptional circumstances and wants, the commissioners recommend a special local authority of 42 members, of whom 18 are to be appointed by the London County Council, 7 by the London School Board, 2 by the City and Guilds of London Institute, 2 by the trustees of the City Parochial Charities, one each by the Universities of Oxford and Cambridge, and 2 by the University of London. The remaining 9 are to be elected by the other members, and it is required that "some of these shall belong or have recently belonged to the teaching profession, and some be selected from persons possessing special knowledge of London industries, whether as employers or workmen." Provision is also made that on all these local councils women shall be eligible for appointment, and the commissioners give reasons for attaching special importance to this provision.

The powers to be intrusted to the local council are defined to be (1) the securing a due provision of secondary instruction, (2) the remodeling when necessary, and supervision of the working of endowed (other than non-local), schools and other educational endowments. (3) A watchful survey of the field of secondary education, with the object of bringing proprietary and private schools into the general educational system, and of endeavoring to encourage and facilitate, so far as this can be done by stimulus, by persuasion, and by the offer of privileges and advice, any improvements they may be inclined to introduce. (4) The administration of such sums, either arising from rates within its area, or paid over by the national exchequer, as may be at its disposal for the promotion of education.

It will be observed that the report does not propose the creation of new bodies to be chosen by popular suffrage. It recommends that advantage be taken of the existence of two bodies, which are themselves the product of popular election,—the county councils and the school boards,—and that these bodies shall choose representative members of the new secondary boards. In this way it is believed that these authorities will be in effective touch with the constituencies, and be conscious of a sense of responsibility to the public, without multiplying the occasions, already numerous, for direct appeal to the rate-payers. The presence of a small number of nominees of the Government and of the universities on the local councils is obviously calculated to secure permanence and freedom from local associations, and an element which, though not dominant, may usefully prove influential, even in the most popular bodies.

For both the central and the local authorities, the commissioners have, with commendable courage, recommended, with certain limitations, the method of co-optation. That method was long discredited, and is still regarded with scant favor by many politicians, because in former times bodies of trustees often filled up all vacancies as they occurred with friends and neighbors of their own way of thinking. In such cases, whatever of narrowness—either social or religious—characterized the governing body became strengthened and perpetuated by each new election. The trusts assumed a private character and lost the confidence of the communities for which the charities existed. But it is manifest that in a body of which the majority are popularly elected, co-optation by this body is an indirect form of popular representation, and simply allows the representatives to add to their own number a few others whose assistance they desire. In every district such persons are to be found possessing distinguished qualifications for usefulness, and yet unlikely, owing to special circumstances, to be directly chosen by a popular electorate. The principle of co-optation, thus guarded and limited, is a valuable one, and the working of it, should Parliament accept the recommendations of the commission, will be watched with great public interest.

The commissioners acknowledge with due gratitude the great help they have obtained from experts and persons possessed of special information in foreign countries. From the United States in particular they received in answer to inquiries valuable memoranda communicated by some of the leading educational authorities, including Presidents Eliot, Gilman, and Angell; Nicholas Murray Butler; Professor Simmons of Iowa; Mr. Quincy Shaw of Boston; Miss Salmon of Vassar, and Miss Thomas of Bryn Mawr. Perhaps one of the most striking statements, and one most likely to attract the attention of English readers, is a sentence in the very full and thoughtful paper of President Eliot to the effect that "the relative influence of private and endowed schools in Massachusetts has increased within the last twenty years. This is partly the effect of the increased heterogeneousness of the population, both as regards race and mode of life. It is partly due also to the fact that the private and endowed schools have established a distinct superiority to the public schools; because they are freer to experiment with new methods of instruction and to adopt methods which prove to be good, and because they spend more money per pupil. In Massachusetts, it has been the private and endowed schools which have adopted most promptly the improvements in education urged upon schools by colleges and universities."

There is here a warning, the significance of which is not likely to be lost upon the English people when the time comes for the legislature to give effect to the recommendations of the report. The truth is that no conceivable system of public instruction, however wisely organized, can ever satisfy all the legitimate demands, or be coextensive with the intellectual requirements of a free people. Room must always be left for new experiment, and for fresh machinery. Liberty, enthusiasm, inventiveness, power of adaptation to new circumstances and to new needs, will always be necessary, if future development of education from good to better, and from better to best is to be assured. The commissioners have fully recognized this truth; they have not recommended the destruction or discouragement of any existing agencies, but have sought to coordinate them, and to bring them into helpful relations to each other. They have shown how deficiencies may be supplied, resources economized, and future enterprise encouraged. And it is because this work has been done on the whole with moderation and judgment, and in the spirit of compromise, that the report is likely to commend itself to the favorable acceptance of the English people, and to lead ere long to useful legislation.

It should be added that only three volumes, out of the ten to which the report extends, have yet appeared. The oral evidence, and the report of the assistant commissioners, including one by Dr. Findlay, who visited the United States, have yet to be published. It is probable that after the appearance of the complete report, and after some public discussion of the recommendations, I may venture to trespass on the readers of the REVIEW again, and to supplement, with fuller information, these first impressions.

J. G. FITCH

LONDON, ENGLAND

Other articles by Dr. Fitch on Education in England have appeared in the EDUCATIONAL REVIEW, as follows:

Contemporary educational thought in Great Britain (December, 1891); The proposed university for London (March, 1893); A view of England's educational system (November, 1893); The religious issue in the London schools (February, 1895).

II

LANGUAGE AND LITERATURE

THEIR CONNECTION IN PRACTICAL EDUCATION[1]

Since we were last together, an essay, widely read over our English-speaking world, has brought up for somewhat bitter discussion that very question which we were to discuss to-day. It is the essay of Mr. J. Churton Collins, a writer of much distinction on the teaching of literature, published in the *Nineteenth Century* for February, 1895; and it bears a title of ill omen, as I fear, for the teaching of English. Mr. Collins calls his essay "Language versus literature," and in thus naming his clever article, he formulates that antagonism between the teaching of the language and the teaching of the literature which is, as I believe, the most deadly danger of our time to the successful teaching of either. For, although Mr. Collins limits his own essay to "Language versus literature at Oxford," the danger that lies in its fundamental doctrine cannot be kept from spreading wherever men or women are trying to teach English. If that antagonism which he urges be accepted as a real antagonism, and followed in our system of education by a practical separation of language from literature, those evils of our present system which we are seeking to cure are to become graver and less controllable. There is, indeed, no disguise of Mr. Collins's meaning. By the teaching of language he means, as he says, all "grammatical or verbal commentary" upon the literary masterpieces (p. 290); and by the teaching of literature he means the discussion of the relations of such literary masterpieces "to history, to philosophy, and to æsthetics." These are the two methods of study that he proposes to separate forever, and to pursue on separate lines. This is the antagonism, as he conceives it, between *philology* as the teaching of grammar and of the meaning and construction of words, and *literature* as the teaching of history, of philosophy, and of æsthetics. If this be a just antagonism, if the meaning of a writer, as conveyed through his language, is to be separated in practical teaching from the relation of that meaning to history, to philosophy, and æsthetics, then all existing systems of education, from the highest to the lowest, are to be wrenched from their connection with the past ages of human culture and reformed on new principles of completely modern speculation. The teacher of language, on the one hand, is to keep aloof from the historical, from the philosophical, and from the æsthetical meaning of the work of literature that he is interpreting. The teacher of literature, on the other hand, is to refrain from interpreting the language of the literary work whose philosophical and historical and æsthetical relations he is expounding. Such is the strange doctrine that Mr. Collins, as champion of a somewhat popular movement, urges upon Oxford and upon our English world. This is the antagonism that he expounds in his "Language versus literature."

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[1] Read at Columbia College, before the Association of English Teachers, on April 10, 1895.

Antagonism between language and literature, if admitted as a principle in education, must show itself, of course, in its effects, first upon the teaching of language, and then upon the teaching of literature. What, then, will be the results upon the teaching of language of divorcing it from literature? That is a question to which experience gives a full answer. There are men in all ranks of our profession that, shutting themselves off from all contact with literature, have essayed to teach language. Each of us, in his time, has been the victim of such teachers. They have, it is plain, existed in all stages of human culture. They were as familiar to the Greeks and Romans as to us. And they have been in every age the promoters of dullness and pedantry, the bane of pupils, the butt of poets and jesters, that evil race of *σχολαστικοί* whose sayings and doings amused the world before *Punch* and *Charivari* came into existence, before the "funny columns" of the newspapers were founded on our American soil. The world's experience of such teachers is ample. For the children in our schools, for the students in our colleges and universities, except in special cases of advanced courses in pure linguistics, the study of language, if severed from the study of literature, is found to be not only fruitless in itself, but also in high degree, to mind and character alike, pernicious. Men, for example, that have studied Latin under such teachers, feel for all their lives a disgust for Latin learning, and bitter disbelief as to the existence of literary beauty in the Latin literature. They are the men, in our modern societies, that are leading the crusade against the continuance of classical studies. And so, in the same spirit, the boys and girls that have had in our schools to study English grammar and English spelling-books out of all connection with English literature, pass from school into life, not only ignorant of the noblest knowledge of our race, but full of prejudice against all forms of literary culture. Thus, it is plain, to carry out the antagonism of language and literature by teaching language without literature is, so far as language is concerned, unwise and deadly.

In like manner, where experiments have been tried, the study of literature, divorced from the study of language, shows itself just as fruitless, just as disastrous. Each work of literature has, of course, its relations, as Mr. Collins says, with æsthetics, with philosophy, and with history. But, before these relations can be taught, that work of literature must itself be known. Such knowledge of the work to be studied comes through language. Only through definite forms of human language does literature, in its true sense, reach the mind at all. And all works of true literature, in whatever language it utters itself, have access to our minds only in forms of language that demand effort and help for their interpretation. Thus the teaching of literature reposes always upon the teaching of language. A child, in trying to take in a piece of literature, in trying to reach the author's real meaning, has need at every turn of his teacher's help. Words have to be explained, constructions interpreted, the bearing of part upon part made plain. Here then, even at the beginning of the teaching of literature, there is the call for the teaching of language as the basis of all attainment of literature itself. And as our children advance from simpler forms of literature to forms that are more elaborate and more difficult, the need of interpretation by means of language becomes more and more imperative. On this point, the practical experience of teaching frees the minds of teachers at least from peril of unsound theories and somewhat odious cant. Not only in Greek and Latin, not only in the modern languages, is the careful study of language the absolute condition of contact between the child's mind and the author's meaning. Even in our own literature, in the prose and poetry of our own time, ignorance of the language, ignorance of the meaning of words, ignorance of the form of constructions, is always betraying children's minds into false or feeble conceptions of the author's meaning, into blindness as to his literary form. Thus the chief effort of the true teacher of literature is always to enable the pupil's mind, by all arts of interpretation, to penetrate into the full meaning of the text, to take in its full thought and to catch its true feeling. An ode of Swinburne, for example, where the meaning is almost lost in the surges of his anapæstic vocabulary, or one of Browning's dramatic lyrics, where a difficult thought is hidden in tangles of difficult construction, demands more care in the interpretation of its language than a passage from Homer or Vergil. Unless this be done with patience, with loving care, with sympathetic judgment, there is no real knowledge at all of literature attained, no solid basis of knowledge for those discussions of philosophy and history and æsthetics of which Mr. Collins speaks as the matter of literary teaching. And so, for the teaching of literature itself, its separation from the teaching of language is altogether pernicious. It leads to careless habits of reading, to false thinking, to self-deception, to that bungling and smattering which rob education of its real value. For the true study of literature is the study, not of theories about relations of history and philosophy and æsthetics, but of the meaning and significance of the great works of literature themselves. And the meaning of the text is so inwoven with the language that expresses it as to make all study of literature except through knowledge of language delusive and fallacious.

The teaching of language apart from literature and the teaching of literature apart from language have then, it seems, in different ways, but in equal degree, always shown themselves to be ineffective. In all great schools of literature, language and literature have, in point of historical fact, been united for their common good in one common discipline. And, in our own time, in the writings of Mr. Collins and others, the unwise effort to bring about this separation arises in large measure from misunderstanding of the name that all ages and all nations but ours have given to the study of language and literature in combination. That name has always been philology: and so, in urging his doctrine of "literature versus language," Mr. Collins makes his attack upon what, in thoroughly false conception of a philosophic term, he calls philology and philologians. In his mind, he has reduced philology to what he calls "grammatical and verbal commentary"; and having thus disgraced the noble word by a false rendering of its historical and philosophical import, he deceives himself into asserting that "philology has no connection with literature" (p. 290). In such a definition, in such an assertion, there is an audacious defiance of the facts of history and of the philosophic use of language. The noble term itself, Platonic in its origin, denoted in Plato's mind the love of reasoning, the devotion of the soul to the exercise of the mental powers. It was made by the teachers of Alexandria the technical term for the study of literature. Among the Roman scholars, it meant the art of practical interpretation as applied to works of literary art. In the times of the Renaissance, in almost the same meaning, it connoted all those branches of knowledge that were combined to make intelligible to the modern world the meaning of the great works of classical literature; as such it combined not only the meaning of words and the study of constructions but also the doctrine of literary form, the practice of criticism and the principles of æsthetics. Conceived in this true sense, philology is, therefore, just the right name for that noble discipline of the mind which combines the study of language with the study of literature. Its sublime unity of conception is the logical antidote for all pernicious tendencies toward separation between language and literature. The study of language is philological so far as it bears upon the interpretation of literature, so far, that is, as it helps the mind to take in the exact meaning of the author read. The study of literature is philological so long as it deals with the meaning of a work of literary art, with its artistic form, with its history, with its historical and æsthetical significance. For us, therefore, as practical teachers of English, it is all-important to keep this word in its right use, and to find in it the ideal of our own efforts. Its thorough-going sharpness of conception cuts at the root of all harmful practices in our teaching. For our pupils, except in special cases, all study of language that does not help to interpret literature is to be rejected as harmful; and all study of literature that does not rest upon clear understanding and sound interpretation of the language used in literature is to be reduced to the smallest amount. Thus, for our purposes, as combining both sides of our daily duty, philology may be defined as the loving and methodical study, through language, of literature itself; and, if so made a part of our intellectual life, it will serve to keep us from pedantry, to keep us from dryness and shallowness of instruction, to keep us from all that is idle and desultory, from all that is absurd and pretentious in our daily dealing with the language that we teach and the literature that we interpret. Wherever, in fact, there is good teaching of language, that teaching, in its bearing upon literature, is philological; and wherever there is good teaching of literature, that teaching, in its power of interpreting an author's exact meaning, is again an exercise of purely philological skill.

This brings us face to face with another of Mr. Collins's paradoxes. He has sought to separate the teaching of language from the teaching of literature. Confounding philology with the purely grammatical teaching of language, he has denied that philology has any connection with literature. Finally, in speaking disdainfully of students of language, he says "the instincts and faculties which separate the temperament of the mathematician from the temperament of the poet are not more radical and essential than the instincts and faculties which separate the sympathetic student of philology from the sympathetic student of literature"[2] (p. 293). According to this view, the student of language is separated by radical and essential differences of temperament from the student of literature; or, the qualities of mind and the passion for knowledge that we find in students of language are different in kind from the qualities of mind and the passion for knowledge that we find in students of literature. Such a statement, if true at all, would be capable of direct historical proof. In the student's survey of human culture, if such a difference existed, we should find, on the one hand, that students of language had showed themselves incapable of understanding the principles of literature, and that, on the other hand, the fundamental principles of criticism and literature had been established by men that were not students of language. Let us look, then, to the facts that are familiar to all students of human culture. Was that Aristotle who discovered and formulated the natural laws of poetry different from the Aristotle that laid down the laws of logic and the principles of grammar? Was the Quintilian that gave to the Roman world its most splendid monument of literary criticism a man of different instincts and different faculties from the Quintilian that, in his closing books on style, gave also the most penetrative analysis of grammatical and rhetorical form? Think, in modern times, of Petrarch, of Boccaccio, of Reuchlin, of Erasmus. Was the passion for linguistic knowledge and for purely grammatical learning in those great leaders of modern thought inconsistent with the passion for literature or with the sense of literary art? And, in our noble English line, think of Ben Jonson, grammarian of the English language, poet and critic of poetry; and think also of his great namesake, Dr. Johnson himself, who, having passed his youth in the purely linguistic studies of his great dictionary, summed up in his *Lives of the poets* those principles and examples of purely literary criticism that still stand as the best result of eighteenth century thought on literature. In truth, in all ages, since literature has been studied, the best results of such study have been combined with the profoundest knowledge and highest mastery of language. Sainte-Beuve, when he gave his lectures on the poetic beauties and constructive plan of Vergil's *Æneid*, approached his poet through a consummate knowledge of Latin. Matthew Arnold, when he composed the best analysis ever given of the style and art of Homeric poetry, had as his means of access to the problem his profound and delicate knowledge of Homeric Greek. In the same way, Dr. Jebb's treatment of oratory and the Attic orators, Lang's lovely discussion of the Homeric question, Lounsbury's criticism of Chaucer's poetry, Jowett's studies of Plato—all have flowed from the minds of men that were trained in the severest study of language, men that had all the instincts and all the qualities of the most ardent philology. In fact, up to this time, one could hardly find any great and splendid piece of literary criticism, any final and monumental work on any great masterpiece or on any great epoch or department of literature that has not come into existence by philological method, and through the careful and loving study of language. Without this basis of exact knowledge, works of criticism, not built on philological method, perish with each season as fast as they arise. For, since the highest effects of literature must always be produced by the skillful and powerful management of language, only those men that can feel, through perfect knowledge, each vibration and suggestion of language are capable of interpreting the full significance of literary art.

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[2] This sentence is so badly formed as hardly to have a meaning. The thought seems to be that the difference between the instincts and faculties of the two classes is radical and essential.

Of this difference in value between works of literary criticism, according as they are composed with or without philological method, there is in my own department one example so full of meaning as to be worthy of special notice. The subject of Anglo-Saxon poetry happens to have been discussed by two critics of well-deserved fame. The one was a great French philosopher, considered at one time by his admirers to have established a new method of philosophical criticism, by setting the productions of literary art into scientific relation with the facts of physical geography and of sociology. The other was an old-fashioned English scholar, well read in many languages, careful in habits of study, and so much antiquated in his methods of criticism as to think it worth while to spend many years in learning a language in order to form a judgment of its literature. And so we are able now to see Anglo-Saxon literature as it showed itself by the one method to M. Hippolyte Taine, and by the other to Mr. Stopford Brooke. In Taine, there are magnificent generalizations which now, after lapse of twenty years, are seen even by his admirers to be fallacious; there are brilliant statements of fact that happen not to be true; there is a sparkling literary criticism that assigns to the poetry of the Anglo-Saxons just the qualities that it lacks and denies to it just the qualities that it possesses. In Stopford Brooke,[3] there is, as poetical background of his picture, but little of physical geography, and only some careful and well guarded statements as to the dubious results of race and the bearings of political institutions. But there is a full acquaintance with the poetical literature that he discusses, sound knowledge of the secrets of Anglo-Saxon vocabulary and style and verse-forms, correct and generous appreciation of poetical beauties, and such a linking of man to man, of poem to poem by development of literary form throughout the centuries as makes the entire period live for us with almost complete vitality. And thus, while Taine's treatment may charm us into reading and leave us infected by its magnificent illusions, the survival of a past epoch of critical speculation, Brooke's noble and monumental work, scarcely to be touched by changes of speculative theory, remains a precious treasury of careful facts, of correct and vivid interpretation, of sound and sympathetic criticism.

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[3] *History of English literature* (1892).

Such philological method means, as we have seen, both the careful study of language and the careful study of literature. But, although both elements must be present, there is, according to circumstances, an ever-shifting proportion between the two. This depends, of course, chiefly upon the nature and the style of the piece of literature that is to be discussed. If, for example, the author be Homer, in some passage of stirring action and easy syntax, the skillful teacher of Greek may take time and attention from points of language in order to concentrate them upon the literary form, upon the beauty of the scene, the liveliness of the characters, the swift and eager movement of the narrative. But, if the same teacher were reading an ode of Pindar, there is not in the world a class of students for whom the interpretation of the text, the connection of the strophes and the delicate unveiling of the figures would not be necessary as the means of entering into the charm of the poem and of feeling its real meaning and its artistic significance. So in countless passages of Shakspere, all the force of the character and all the movement of the scene depend upon correct interpretation of the words Shakspere uses.[4] And again, the right proportion between the teaching of language and the teaching of literature varies with our pupils' age and mental advancement. If their youth or their lack of reading makes their vocabulary small and their understanding of literature dull, then there is absolute need of explaining words and interpreting constructions. Without this, the charm of literature cannot reach their souls. But if the pupils be well advanced, familiar with large masses of words and with literary style, then the teacher may take much for granted, and deal with the literary form of the passage, with its relations to history, to æsthetics, and to philosophy. In sound teaching both elements, language and literary form, will always, indeed, make themselves felt. But, in general, where the student's knowledge of language is scantest, the teacher's interpretation of language must be fullest; and only by degrees can his attention be withdrawn from the language to fix itself upon literary form and historical and philosophical relations. Each step, therefore, in the student's knowledge of language is a step toward comprehension of literature. Only as the practical command of language approaches perfection, is there any real access to literature.

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[4] Hamlet, to his sword, "Know thou a more horrid *hent*."
Othello, of Desdemona:

"If I do prove her *haggard*,
Though that her *jesses* were my dear heart-strings" (iii. 3, 266).

Here then, of course, is that advantage which comes to teachers of English in their teaching of literature. The child that speaks English as his mother-tongue starts upon the study of English literature with a fulness of preparation, an adequacy of intellectual means, which in Latin or in Greek or in any modern language he attains, if at all, only by many years of painful effort. He has, in his command of English words, in his general understanding of English sentences, easy access to the meaning of English authors; and thus, lifted by chance of birth above the thorny barrier of grammar and dictionary, he is able almost at once to feel the meaning of what he reads, and to pass to the study and appreciation of literary form itself. There is here a gain of many years. A child of seven or eight understands with more ease the meaning of a simple English poem or prose story, and feels the charm of its literary form with more directness, than students of seventeen or eighteen in dealing with a similar poem or story in Greek and Latin. Since the difficulty of the foreign language is withdrawn, his mind is able to pass step by step, in easy and delightful process, to what may be called the literary qualities of literature. In poetry, for example, his ear may be trained to feel and understand the beauty of the verse-form that delights him. In prose his taste may be guided to discover the beauty of the sentence and to see the construction of the paragraph. The meaning of the passage, in its delineation of human life and in its revelation of spiritual truth, may become almost at once a part of his mind. Even the charm of purely literary art, the delicate choice of words, the lovely play of humor and imagination become almost from the first visible to his childish mind. Think, for example, of our children's delight in Hawthorne's tales of the Greek mythology, or in the Lambs' rendering of the Shaksperian stories. There is, I think, an average difference of ten or twelve years between the time at which our pupils can understand and appreciate English literature and the time at which, if ever, they are able to understand and to appreciate the literary quality in their Latin. Thus, in the years of school life, if the teaching of literature follow good method, the child has time to gain a true knowledge of much great literature and a useful conception of literary form itself. For this reason, as matter of common sense and economy, the real teaching of literature must be chiefly in the hands of English teachers. We have, in our pupils' knowledge of their own language, an enormous advantage as teachers of literature over teachers of other languages.

As offset to this advantage, there is, however, one special difficulty in the philological teaching of English literature. It arises from the mixed character of our English literary culture, from that strange divergence which history has made between the forms of our English language and the forms of our English literature. Our language, in its stock of fundamental words, in its inflections, in its syntax, above all in its psychological grouping and sequence of words, is purely Teutonic. Thus, to understand the modern language, so as to be able to explain its difficulties and to reveal its beauties, the teacher of English has to make himself familiar with the essential steps in the historical growth of the language from the eighth century to the nineteenth. In this he has to follow the Teutonic line of sequences. But our English literature, in its models of excellence, in its forms of literary construction, in its artistic patterns both of prose and of verse, goes back step by step chiefly through French and Italian to the Latin and Greek conceptions. It was, for example, from French models that Dryden drew the essential features of our modern prose. It was from Italian models that Chaucer and Surrey drew their methods of narrative and of lyrical poetry. It was under the influence of classical forms, chiefly of course Hellenic, that all the great masterpieces of our literature, in poetry and prose alike, have assumed their artistic shape. Thus, for teachers of English, the task of the philological teaching of English literature is especially difficult. If in dealing with the facts of language, with grammar, syntax, construction, he neglect the Teutonic side and teach according to the conceptions of his Latin grammar, his blunders and absurdities become incredible. From this have arisen the worst books that disgrace the school system of any modern nation, the mass of those school grammars that carry into the study of a Teutonic language the rules and classifications of the Latin system. If, however, the English teacher shut himself up in the Teutonic system of language, if he close his mind against the artistic forms of Hellenic and Roman literature, he makes himself incapable of interpreting literature. He is unable to point out historical connections in style and to trace the movements of literary art. The difficulty is very great. As compared with the Italian teaching Italian, or even with the Frenchman teaching French, the English teacher of English has need of the far larger philological equipment. He must combine in himself an adequate knowledge of the forms and principles of the Teutonic language with an adequate knowledge of the forms and principles of the classical literature. It is by lack of the one element or of the other, that our English teaching is often so ineffective.

In the true method of teaching literature there is one point to guard that is the key of all philological study. In our teaching of literature there must be no serving up of scraps, no discussion—verbal or grammatical or critical—of incomplete fragments of things. The child, to gain a true knowledge of literature, must deal directly with the work of literature itself; and each work of true literature is, in its own nature, first of all, an artistic unity, to be studied, if studied at all, only in its integrity of artistic structure. Thus a lyric of four lines, if complete and perfect in those four lines, is better for our purpose than any collection of the poetical shreds and patches of longer poems. An essay by Lamb or by Matthew Arnold, an oration by Webster or by Bright, a tale, a story, by some good writer of narrative, contains in its well-arranged sequence of paragraphs the perfect display of literary method and of artistic skill. But if the structure be broken, if the plan be shattered, fragments taken from it, once so beautiful and so full of instruction in their right place, become for the teaching of literature worthless or even harmful. Nothing ought to be closely studied for knowledge of literature that has not beauty of literary form; and beauty of literary form, fitness, harmony, proportion among the parts, is found, never in scraps, but only in complete works of literary art. Whether short or long, let each work of literature that we read with our pupils be complete in itself. In that way, passing up through the interpretation of special passages, explaining all that needs explanation, we shall be able to disclose its quality as a work of art, its organic structure and organic unity as a work of literature.

In dealing with such works of literary art, if the study of the language and the study of the literary form be kept side by side in equable progress, especially if they be drawn together in our pupils' minds by incessant practice in composition, each study in turn, it is plain, will be helped by the light derived from the other. But for this there must be wise discretion in choosing the forms of literature that are to be studied. They should be graded according to complexity of their literary form itself. In prose, we should, I think, begin with simple masterpieces of descriptive method, descriptions of scenes of physical nature, of landscape, of cities, of aspects of familiar and of foreign life. Then may come passages of narrative art; first simple narrative, then complicated by several streams of events, with descriptions and estimates of human character as seen in action. Then, as the mind ripens, works of oratory, noble essays, and philosophical reasoning and exposition. In poetry, however, the grading has to be slightly different. Poems of pure description, free from the disturbing movement of lyrical emotion, are hard to find and seldom of great literary charm. Lacking these, we should begin with poems of simple narrative—humorous or serious, pathetic, picturesque, always of stirring interest. Then we have, in our noblest ballads, forms of narrative poetry that are full of lyrical feeling, the natural introduction to lyrical poetry itself. From these into certain forms of lyrical poetry, forms in which the emotion is simple and noble, the movement of the child's mind is easy. Then there is the passage into the long narrative and into the epos. Finally, as highest stage of all, there is access to the drama, to the works of Shakspere. Thus, for the last years of school life, for the study of composition, for the maturing of the powers of thought and of imagination, there is reached the careful reading of Shakspere's poetry and of Burke's prose, the noblest forms of literature that our race has produced. By some such plan of arrangement, in the course of the years from eight to seventeen or eighteen, almost the full compass of our great literature, in representative works of the various literary forms, may be brought before our pupils' minds and made a part of their souls forever.

In order, then, that this school study of literature be real and profitable, it should be spent upon literature itself. It should be models of literature that are studied, not books nor essays about literature. To gain time for this, we must be always on our guard against the premature and excessive use of handbooks of literary history, of handbooks of literary criticism, of biographical treatment of authors, of historical treatment of the dates and externalities of their writings. Books about books are, in general, unless the books themselves be familiar, the least profitable of reading; and, in our country, it is the large use of books about literature that has almost killed the study of literature itself. They tend to destroy in our pupils the freshness of their minds for contact with the great works of literary art. They make the names of books and of authors familiar to children's minds, while the meaning of the books is unknown, and their charm unfelt. They delude us into a false conceit of knowledge that is fatal to knowledge itself. Especially dangerous is the substitution of biographical bits about great writers' lives for the study of the works of literature that they have produced. It is in too many cases the substitution of a morbid interest in the poet's personal character and personal frailties for a noble and healthful interest in the works of pure literature that he has created. In Shelley, for example, for the one serious student that knows his poetry and seeks to understand the movement of his exquisite lyrical imagination, there are thousands of men, women, and children that pry into his sexual relations and fill themselves with his rather absurd theories on marriage, politics, and theology. If I talk to a young scholar about De Quincey, he knows, I find out, all about his opium habit, but he has never read the *Cæsars.* If the conversation shift to Marlowe, he has fuller knowledge than Marlowe's own contemporaries of the death in the brothel, but he has not yet had time to read *Dr. Faustus.* It is such loose reading of literary sketches, of anecdotes, of gossip about men of letters, that is suffered too often to take the place of study of literature. Some study of literary history, some study of personal biography, if used in close connection with the masterpieces of literature themselves, is, of course, useful as throwing light upon the literary production. But the true study of literature, the study that fills the mind and forms the character, is not the study of the facts or fictions of biography; it is not the study of handbooks of literature or of handbooks of criticism; it is not even what Mr. Collins urges, the study of historical or philosophical or æsthetical theories about literature; it is the study of the works of literature themselves, in their meaning, in their form, in their artistic structure, and in their moral significance.

In practice, then, as in theory, it is the study of the works of literature themselves, far more than the study of criticism upon those works, that makes the charm and the profit and the final goal of the study of literature. And, in such study of literature, it is the study of language that leads to what we wish to attain. For the study of the language, and that only, has the power of revealing to us both the meaning of the writer and the character of his style. And so, by revealing the exact meaning of the work of art, it determines its artistic and its historical significance; and, by revealing the character of its author's style, it leads us to our final knowledge of the man himself, of his intellectual and emotional nature, and of his modes of imagination. Last of all, as the study of language is the study of style, it brings to discovery the general movements of literature, the influence of writer upon writer, and of age upon age, in all the long evolution of literary form. Thus the study of language and the study of literature seem in scientific thought, as in historical connection, inseparable.

THOMAS R. PRICE

COLUMBIA COLLEGE,
NEW YORK

Other articles upon various phases of this topic have appeared in the EDUCATIONAL REVIEW, as follows:

The function of literature in elementary schools, by Professor George E. Hardy (July, 1891); Can English literature be taught? by Professor Brander Matthews (April, 1892); English composition in colleges, by Professor George R. Carpenter (December, 1892); Developing literary taste in students, by Professor Edward T. McLaughlin (January, 1893); Relations of literature and philology, by Professor Oliver Farrar Emerson (February, 1893); Literary spirit in the colleges, by Professor Francis H. Stoddard (September, 1893); The teaching of English literature in schools, by J. Wells (October, 1893); The contents of school readers, by Principal A. E. Kellogg (November, 1894); Educational value of English, by Mr. George H. Browne (April, 1895); English in the college, by Professor L. A. Sherman (June, 1895); High-school course in English, by Professor George J. Smith (December, 1895).

III

HIGHER EDUCATION IN THE SOUTH

Out of the overthrow of an unique and forceful civilization in the Southern States there is slowly emerging a new society. Under the stern pressure of necessity this silent revolution has proceeded so quietly, and has been masked so skillfully by the marvelous material resurrection of a ruined and conquered people, that men have not marked the clashing of old ideas and aspirations and modes of thought with the new strenuous influences of modernism and innovation. All the well-known phenomena of transition are in full play in Southern life—the people as a whole, incited by lack of training and consequent poverty, pressing steadily toward a wider life, but unable to distinguish, in the general clamor, the guidance of true wisdom from the voice of the slave to his prejudice or his sect casting in stumbling blocks, or the raw enthusiast shouting panaceas and prophesying millenniums.

The direction and elevation of this social new birth are the surpassing duty and function of all educational forces, and more especially of the higher education in Southern life. Whether there shall issue from the conflict an enlightened civilization blending the lovableness and charm of the old with the vigor and freedom of the new, or some unhappy system made up of crudities and ancient prejudices, is the task set for this generation of educated Southern manhood.

Isolated, individual, conservative, the South of the past held itself proudly aloof from the ferments of modern society, went its own way, and created its own dominant, dramatic order. This order was a system of contrasts and lights and shadows. It produced neither wealth nor letters. It dishonored labor, arrested immigration, minimized invention, unified industry, and exalted caste. The academies and private schools of the time, administered by scholarly and devoted men, were numerous and effective, indeed, almost perfect instruments for the purposes of the time; but the common schools, branded with the burning badge of pauperism, could not thrive. Yet there issued from this order the smallest, the alertest, the most powerful political force in Christendom. The American Union had sprung from their brains, had been maintained by the valor of their arms, and had extended its territory under their guiding hands. By a strange historic paradox the causes of their weakness became as well the causes of their strength. The dangers and antagonisms of a militant labor system made them masterful in action and persuasive in speech. Baronial life, with its leisure and inherited overlordship, made them as simple as shepherds and as proud as kings. In the placid air of their enlightened mediævalism lingered the brave old ideals of courage and beauty and gracious dignity. There was but one overshadowing Southern question then, and this for its treatment did not so much need universal intelligence and thrift and the spirit of gain and growth, as it did character, principles, oneness of purpose, and chivalric codes of conduct. Hence all the forces of the time concentrated on these lines, and there arose an assertive, sensitive, sincere, dauntless race of men esteeming life less than honor and loyalty more than gold, who wrought with a sad, Titanic sincerity for their doomed cause; withholding nothing, compromising nothing until the mighty struggle wore to its sublime and pathetic close at Appomattox.

The great war, in the mystery of historic forces, freed the white man, rolled away his burden, and enrolled the South in competition with the great industrial democracies of the world. Its problems, no longer direct and primitive, are their problems intensified by the painful processes of social transformation. The old individualism has given place to combination and capitalism, servile labor to the labor of the free black; and with this the best products are to be raised, the best goods manufactured, and the best routes to market devised. Our first work is to possess the land and subdue it. The care of the body, if not so important as other higher things, must at least take precedence in the evolution of a higher civilization. The law of the passage of society from the patriarchal to the economic stage necessitates the higher organism, the subtler brain, the more cunning hand. Hence, like a belated army, the South is seeking to conquer a place in material civilization; its dreamers become captains of industry, and its doctrinaires, lords of trade. We shall lose an element of charm and picturesqueness, but we shall gain in wealth and productive energy, and the change is inevitable.

Our largest work is the wise and just guidance of the irrepressible instinct of democracy, restrained for generations, now asserting itself in the upheaval of the plain people—the Third Estate—who are everywhere coming to the front, demanding their share in government and challenging the authority of the ruling class. Our untrained men are learning to govern by governing—pedagogically and historically a wise process; for that surely is better than to be governed and remain ignorant. The situation is not without great hopefulness. The rank and file of this popular uprising are the best material in the world for the making of educated citizenship. The Civil War revealed their value to the world and constituted their university. Its marches and dangers opened their eyes and gave them their outlook on life. They and their sons, the younger element in the movement, are men of unmixed English and Scotch-Irish blood, inheritors of the Anglo-Saxon consciousness, descendants of men who sacrificed peace and life for principle in three wars; keen-witted, if untrained—their very excesses the result of boundless faith in the majesty of their government. The tasks awaiting adjustment by these men, sure to attain and hold power in the end, are enough to appall the wisest statesmen and the profoundest social scientists—the remodeling of constitutions, the settlement of grave questions of suffrage and property, the reconciliation of classes, and, greatest of all, the problem of the two races.

The sentimentalists and partisans of the Reconstruction period fancied that they had settled the question which had disturbed the dreams of Jefferson, which had perplexed and affrighted the national conscience through all its history, and which had just evoked the mightiest moral energies of the century. But their solution was no solution. It was solemn opera bouffe. The problem had just begun, and remains the transcendent sociological problem of the age. Rant will not dispose of it, or ignorant gush, or race prejudice, or the philosophy of the sentimental and the remote; but it must work itself out on Southern soil by the wisdom of Southern men of both races. It must pass into the region of scientific study and investigation. The Southern scholar must make it his province in the still air of the university; the statesman and publicist must ponder it, and the capitalist may well reckon with it amid his gold.

What manner of men, then, does the South need in its coming life?

Perhaps in the past we set too much store by wise leaders and neglected to provide for wise followers. If so, the irony of Fate is sporting with us, for now, in the threatening danger of these great questions, we are practically leaderless. The old type of leader, softened by fortitude and idealized by woe, has passed away, canonized by love and letters. The voluntary and occult forces of the time are seeking diligently to fashion the new. Now and then we seem to get a glimpse of our leader—as when Henry Grady with his golden tongue and free, spacious spirit uprose upon the South, a radiant prophecy of its future manhood—but it is only a glimpse. The mere industrial man will not answer our need, though there are lands to be tilled and factories to be built, and the madness of exalting empty political pre-eminence and fair-spoken words above the sciences that will dignify labor and procure food can never again curse our life. The mere orator or politician or scholar will not do. There must be a complex of all these—the man of free spirit and constructive habit—the man of insight and effectiveness, of utility and beauty, of action and contemplation. He shall, above all, have faith and sympathy with the blundering masses, and shall be endowed with that patient wisdom which can await the unfailing rectitude of public impulse and can keep its faith through unpromising days. Like Fichte around the King's council board, or Luther to the burgomasters of Germany, he shall plead unceasingly for education in the colleges and schools, in the press and in the public library. If our laws and institutions are not to become the crude experiments of the ignorant or the bold devices of the corrupt, if the South is to outgrow years of economic misconception, if the teachers in our schools are to be true teachers—educated men, rather than party chieftains or untrained place-seekers, must lead our civilization. The potential of trained mind must constitute the test of true leadership in the South hereafter. The popular contempt for higher education and the popular pride in the self-made man is always widespread and strong in democratic communities. The feeling is a sort of retribution upon scholarship and educated power for their cowardice and selfishness, but it is none the less defiance of common sense. The educated man may not always be in place, but he is sooner or later in power. The higher education is the dynamic element in the life of the community; invigorating the schools of the people, bravely struggling to elevate the common standard of living, supplying the state with its teachers in the schoolroom, the press, the pulpit, the family.

Out of the universities of the world have come its creative movements and men—religious freedom in the Old World and civil liberty in the New. Modern Germany is the child of her universities, and relies more firmly for her permanent power upon them and their twenty-eight thousand students than upon her invincible soldiery. Blot out the influences of Harvard and Yale and the colleges of the Atlantic seaboard, and what art can estimate the loss in moral elevation, practical power, or national character? The great Columbian Exposition with its splendor and beauty will fade away—aye, has faded away as a dream—but its neighbor, the university, will shape Western life for unnumbered generations. Wherever tyranny has sought to oppress the weak or ignorance to rule the wise, wherever the borders of light have needed to be enlarged, or ancient and prosperous shapes of wrong to be cleansed from the land, the gray walls of the university have yielded up its spiritual battalions—strong in steadfast purpose and cultivated brain, discoverers of thought, conservators of truth, stimulators of mind, sowers of seed that will bear fruit in a fairer time. The feeling is instinctive that men of this stamp and quality must serve a state in epochs of downfall and trial. The South has not failed in this feeling, as its brave efforts to establish and maintain schools and colleges for both races quite eloquently show; but the needs of Southern society are so great, her young men seeking training are so countless, the work of all the colleges is such a fraction of what is left to be done, the disheartening rivalries and bickerings among the colleges themselves are such distressing proofs of the need of higher education, that it has seemed best for me to leave the questions of technique and administration to wiser men and to plead for the thing itself.

We are not all of one mind as to how the great need shall be supplied. There are those who insist that this vital thing is not a concern of the state, whose highest functions they declare are symbolized by the policeman's club or the law's penalty. And then there are the prosperous communities with amassed wealth and settled material skill, who say to us that we must wait upon the impulses of philanthropy or the activities of the Church for our educational foundations. But the nature of the state is at variance with the limitation of its powers to police regulation, and the instinct of civic self-preservation decides against trusting wholly to individual generosity or ecclesiastical agencies for an universal social necessity. The state is not the government alone—it is the will of the people expressing itself in beneficent institutions as well as in penal or protective codes. The protective function of a state, indeed, may disappear as reason advances, but the loftier educational function will increase as social relations grow in complexity.

From the standpoint of right, there is no power to which the state can delegate its duty and power to educate, for there is no higher power than the state. If there be a higher power in the state than the state, then that power *is* the state. From the standpoint of political common sense, the agent of social salvation should be at least as potent as the extent of social peril. Our social peril is superlative, involving education or migration or revolution. The most potent conceivable agent is the state, which is concerned about and surely is responsible for its own life. Therefore, it is the all-powerful state that must maintain itself against vital danger. If it be conceded that the youth of a commonwealth have the same right to be educated that they have to be free, then it must also be conceded that the state is responsible for and alone has the power to guarantee the granting of this sacred right. To those who concede the state's right and duty to educate in the primary education and deny it in the higher, it may be answered that an argument for any education is an argument for all education. If the state has a right to educate at all, it likewise has the right to determine the extent and character of that education. All knowledge is comparative, the higher education of one age becoming the lower of the next, and there can be no dead line in learning at which knowledge ceases to be good and becomes useless. The three "R's" are indispensable. But mere reading is not reading with profit, and the one is as indispensable as the other. Higher education simply means more education, better education, completer education for a completer life.

It is not a cult for the few, or a caste for the wealthy, or a college for the exclusive. It is the training ground for the people, and is the essence of democracy in its purposes and results.

In my own State of North Carolina, up to the Civil War, there was a widespread feeling that the ruling class was confined to a few families of ability and wealth. In the early days of the century it was true, and necessarily true, for the influential and wealthy classes alone could command the advantages of education, and education finally rules. The enlightened policy of the modern state knowing no class, and knowing that those who most need help are least able to help themselves, cheapens the cost of this priceless thing and offers it to the aspiring of all ranks who feel within them the promptings of power and yearn for the higher life of useful action. As a result of this leveling process, introducing the higher test of fitness and ability, side by side in the various fields of endeavor and in the high places, sit men of all ranks and all degrees of wealth, advancing the life of the state.

Let me not be understood, in pleading for the higher education, as underrating the lower, for there is no essential distinction between the two. The state cannot be interested in one and not in the other, for they are one and indivisible. A system of education all universities and no primary school would be a crime, as a system all primary schools and no universities would be a farce. It is simply a question of sequence. The educative impulse is from above downward and not from below upward, and the two impulses re-enforce and enrich each other.

In the old Southern life in every hamlet and community were to be found men and women of the rarest culture; but all around, giving color and tone to the whole, moved the untaught throng. The supremest need of the new life is the lessening of this inequality by the presence, in large numbers in all elements of the population, of men and women of thoughtful, independent mind, of trained consciences and habits and hands, who can bring things to pass. This can only issue out of the higher education reacting upon the lower, lifting the whole to a higher common level.

The permanent forces in this process are, first and foremost, the State universities and colleges supported by taxation and expressing the Christian tendency of the brotherhood of men, and secondly, the endowed institutions supported by enlightened philanthropy.

There is no call among us for a multitude of new foundations, unless it be for institutions for the training of teachers. We need rather to expand and enrich and liberalize the old foundations. There are two obstacles in the way of this result: The popular, abstract hatred of taxation which enables the enemies of the State schools to confuse the thought of the people and to make them regard all taxation as a curse rather than as organized corporate wisdom, hallowed by Christianity, struggling to secure for the children a needful thing beyond individual power. Secondly, the failure, thus far in our development, to find the golden mean between the individualism which preserves liberty and the individualism which paralyzes concerted action. Still partially rooted in our life is the fatal thought that every man should educate his own child, or leave him uneducated, if it be his will or misfortune.

Emphasized by poverty, this conviction still stays the hand of giving and belittles the glory and gladness of helping others to help themselves. We will do well to labor and pray for the death of this sentiment. We would be mad to cease state effort and demand endowment at the point of a subscription list.

Bishop Potter in a recent utterance has declared that the darkest day for any people would be the day when they did not possess an ideal university. And by an ideal university he meant any group of free, simple, unhampered men seeking truth for truth's sake; "waiting patiently on their bended knees before the shut doors of the Kingdom of Knowledge"; getting their only reward in the thrill of the human soul in its contact with eternal verity; ignorant and careless of the moment when their theoretic truth emerges into fact, and in the form of mighty engines or stately ships or roaring looms blesses the world. There can be no fairer picture on earth than this, and such men are indeed the *aristoi* of the world. But there is one thing greater than truth, and that is humanity. The Southern university may well cherish this serene ideal and incorporate in its organization the creative impulse and the spirit of inquiry and investigation, but its first thought must be about its environment, out of which it must grow and by which it must do its duty before it can erect a beautiful aristocracy of scholarship. Once we were aristocratic in government and education, but now we are democratic in both. At this stage of our culture, when millions are to be impressed with the importance of knowledge, the Southern scholar must forego his office of prophet and seer and become ruler and reformer; and Southern universities and colleges must do the work of social regenerative forces, reaching out directly into the life of the people, making known how much better light is than darkness, and how sweet it is for the eyes to behold the sun—ennobling the poor man's poverty and spiritualizing the rich man's gold.

I sometimes think that our brethren of the North and West do not fully comprehend how ripe the time is, and how hard the struggle for the fruitful doing of such work. Individuals and communities cannot be forced into power or culture or effectiveness or skill. The desire for these good things must go before their realization. For a glimpse of the self-reliance, the eagerness, the bravery of the South, one has only to visit a Southern college and see the earnest, thrilling desire for the opportunities which the people believe to be concealed in education. The influences that hinder and obstruct cannot wholly restrain or dull this desire, and it grows by what it feeds on. It is something of the spirit, I fancy, that lives for us in the glad, grateful words of young Ulrich Von Hutten, spoken to the bright face of freedom in the morning of the modern world, "Studies are blooming, minds are awakening. It is a joy to be alive." It is the spirit which will cause history to place our epic period not in the heroic days of '61 to '65, when our soldiers performed prodigious feats of arms, but in the grinding days from '65 to '95, when they and their sons rose above the stupendous difficulties that followed in the wake of war.

The going of a Southern boy to college is no conventional, quite ordinary stage in the life of a youth. It is always an event, and sometimes a tragedy. It most frequently means that far away in the home the father and mother work harder and rest less, and scrimp here and save there, eating skim milk and oatmeal, and taking counsel in the still hours of the night how they may give their child the privileges they did not know, and the entrance into the clearer, fresher, sweeter life denied to them. I have seen a feeble woman's face set with stern resolve and glow with ineffable love at the very thought of her boy putting on his armor at the price of her own life. The dignity and power and political value of childhood and youth as the fittest and ultimate concern of the legislator, the preacher, the political economist, the true statesman, has entered our life as one hundred years ago it entered the life of the French, aroused by the mad earnestness of Rousseau and aghast at the havoc of revolution, or as it entered into the thought of the English, a generation later, to the music of Wordsworth's immortal ode.

Higher education in the South does not exist for its own glory, for the fame of its teachers, for the pride of sect, or for any subjective or selfish reason. Its aims must be pure public aims and its service public service.

In a portentous era and with inadequate means, it stands for the beneficent force that must transmute the tumultuous, untrained life about it into self-government perfected by education—its material the youth of a new life and a new century, and its strong fortress the self-conscious state, no longer a synonym for rude force, but an expression of Christian sympathy and unity and conscience seeking to realize and show forth the dignity of democracy, the beauty of popular concord and justice, and the majesty of republican citizenship.

EDWIN A. ALDERMAN

UNIVERSITY OF NORTH CAROLINA,
CHAPEL HILL, N. C.

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Higher education in Arkansas, by President A. C. Millar (June, 1892); Samuel Chapman Armstrong, by Herbert Welsh (September, 1893); The South and its problems, by Superintendent Lawton B. Evans (April, 1894); Woman's education in the South, by Mary V. Woodward (May, 1894); Student life in Southern colleges, by Professor F. C. Woodward (December, 1895).

IV

THE SIGNIFICANCE OF HERBART FOR SECONDARY AND HIGHER EDUCATION

In this paper the word "Herbart" is used to denote the whole theory of education which is at present associated with this name. It would not be profitable to limit the discussion merely to what Herbart himself may have done.

The first inquiry I wish to propose is, What sort of assistance should one expect from such a source?

The first duty of a disciple is to transcend his master. This fact must ever be borne in mind when we are inquiring what significance a man who lived in the past has for the present. Authority may conserve, but it cannot advance knowledge. In all ages there have been periods when men blindly adhered to their masters. In ancient Egypt mathematical discoveries were recorded in the sacred books, where they took on the infallibility ever ascribed to sacred writings. Errors might not be corrected, or truths extended. During the Middle Ages when men gave their minds to introspection, science was stationary, resting as it did on the unquestioned authority of Aristotle. Bacon struck out anew in the path of inductive research, but his method encouraged his disciples to transcend him both as to facts and processes. Had this not been the case, science would be as dead to-day as it ever was during the Dark Ages. The history of higher mathematics reveals the same thing. Standing upon the basis laid by his masters, each new giant has built for the future. It is said that Professor Klein of Göttingen has undertaken to make his lectures in successive years cover the known field of mathematical research. He has advanced steadily for twelve years, but the end is not yet in sight. Mathematical progress would have been arrested at any point where the disciple was unwilling or unable to transcend his master. The significance of any leader of the past, therefore, is to be sought not so much in the stage of development in which he wrought, as in his point of view, his methods of organization for the constituent elements of a given science.

If this holds for a pure science like mathematics, it is doubly true for an applied one like education, where every new stage in social development, every new discovery in psychology, every advance in knowledge, changes the conditions of its highest success. Herbart died more than fifty years ago. Since his day psychology has had a new birth, knowledge has increased in a geometric ratio, the conditions of economic and political life have been revolutionized. The insights of his day are but stages in the development from the past to the present. It is clear, therefore, that in seeking assistance from a former leader we shall not be helped by falling back into any outgrown system of metaphysics or antiquated theories of mind or morals, but that, as already indicated, we shall find Herbart's significance for us to lie chiefly in his organization of the purposes and means of education.

The first point to be noted is that Herbart discovered what has always been the real, if sometimes the concealed, purpose for which men educate the young; namely, the preparation for civilization, or for citizenship in the broad sense of the term. It is only because educational ideals tend to lag behind the progress of the world, that we seem to be educating for individualistic or for formal purposes. It sounds well to say we are educating man as man, but we must reflect that man as man is only a Robinson Crusoe. He becomes significant only when he is in relations with his fellows, and to the extent that his relations are universal. The monk standing for years on the top of a stone pillar, and fed by the people by means of a basket let down by a string, was a sort of ethical Robinson Crusoe, insignificant to the extent of his isolation.

During all great periods of history, men have educated their children for what they have conceived the most important community duties: in Greece for war and art; in Rome for law and conquest; during the Middle Ages for introspective research into theology and pure reason; in Germany during the Napoleonic wars for political autonomy. Now that the world is attempting universal education, it is forced to discard belated ideals brought about by the natural lag of the professional mind, and to recognize, as every great age has done, that education is for civilization as it exists. As Colonel Parker rightly says: "The purpose of education to-day is neither knowledge nor discipline," it is citizenship through both. Since this ideal citizenship embraces every duty of man to his fellows in all their manifold organizations into social, business, religious, and political groups, it is in the highest sense ethical. This fact explains the Herbartian watchword, *Instruction that makes for character*, which means that secular instruction, in its highest function, is ethical, since it aims to make a man not only willing but able to be an ideal citizen.

If history bears out this interpretation of the ultimate function of education, we are helped by the Herbartian conception of an ethical or social moral revelation of the organized social world, through the studies of the curriculum. This view readjusts our conception of the significance of discipline and of useful knowledge in education, since from being ends they become means. Both are as essential as they always have been, but in a new way. They no longer dominate the selection of studies, nor do they alone prescribe methods of teaching. If preparation for social living be the end, then the needs, the necessities, the opportunities of civilization itself must be our guide in the selection of studies. Upon what other principle can we explain the work of the kindergarten, the curriculum of the elementary and high school, the variety of knowledge, skill, and occupation represented by our great universities? Under any other theory most of the things now done in education must, even though tolerated, be disapproved.

That this view of the purpose of modern higher education is rapidly making its way, may be seen from any university catalogue. A large percentage of the undergraduates are devoting much of their time to studies that reveal the more modern aspects of our civilization. These are the natural sciences, which lie at the basis of our material advancement; economics, which deal with the conditions of industrial prosperity; and political and social science, which reveal still other important aspects of our community welfare. It is a question for college men to consider, whether all their courses for undergraduates are properly balanced between the old and the new phases of education. Are some classes still living exclusively in the past, some entirely in the present? How can a well-balanced modern man be graduated from our colleges, if on the one hand he is ignorant of our spiritual past as revealed in language, history, and philosophy; or, on the other, is in danger of becoming a dreamer in a busy world, because he has never been brought in touch with those studies that do the most to reveal civilization as it is to-day? The demands of the present call for a real correlation between the studies that reveal the primitive sources of our civilization and those that show its modern development and the conditions for its future progress. It is suggested, therefore, that every prescribed or permitted course of study for undergraduates, while allowing emphasis upon important departments of knowledge, should, at the same time, provide for sufficient study of the other departments, so that each student, through a closely knit but comprehensive knowledge of types, may be able adequately to understand our complex civilization; to live in close touch with his neighbors in their public capacities; in short, like one of Leibniz's monads, to reflect from his angle of activity the whole world of striving and doing. In this case we have the man of many-sided interest, not merely the recluse, the cynic, the priest, or even the professor; we have the man of catholic spirit, not the material or the social egotist. If, indeed, the letter of Herbart has not said all this, it may still be found in the spirit of Herbart, for it is involved in the idea that the supreme purpose of education is the ethical revelation of the modern world to the student.

The purpose of education as thus conceived being once accepted, important consequences follow. For an extended exposition of this idea, as contrasted with that of formal gymnastic training as the purpose of education, I need but refer you to the recent Report of the Committee of Fifteen. The convincing argument of that Report makes it unnecessary to consume time in further exposition of this point.

But even when upon this basis we have selected our studies, we have but just begun our work. Most of the great problems still remain. It is easy to prove that civilization demands mathematics, but difficult so to organize and teach the study that the native capacities of the mind shall be properly developed. To judge from the common experience of colleges, one is led to believe that current teaching in this branch tends to lead the mind away from rather than toward the higher mathematics. As Professor Dewey remarks, our methods usually succeed in crushing out all spontaneous interest in the subject, even if they do not all but destroy the capacity for it. Similar problems arise for language, science, and history. To what but bad selection, ill adjustment, poor correlation, or stupid teaching can we attribute the fact that boys so eagerly abandon the high school, or dawdle through college, or fail to detect in later years the bearing of much of their education upon the problems of life? Seed sown in winter does not germinate; knowledge planted in a mind left cold by isolated knowledge or bad methods brings but small increase.

This consideration introduces the second important contribution that Herbart has made to the cause of education, namely, the doctrine of mental assimilation, or apperception.

Education has to do with a developing mind, having changing insights, tastes, moods, enthusiasms, dislikes; having also tendencies to good and bad. The pupil before us is not a blank book in which a system of knowledge is to be developed, but a living organism that must assimilate its food. Furthermore, unlike the plant, this organism is free to choose the harmful as well as the helpful food, or to reject both. The psychology of learning becomes, therefore, the foundation of teaching.

It is freely conceded that Herbart himself gave only the initial impulse to modern psychology, which lays stress upon processes rather than upon the classification of their results. The doctrine of apperception discards the needs of so-called faculties as a guide to the selection of studies, and to the methods of teaching them. It selects no material because it is good for the perceptions, or memory, or imagination, or reason, or feelings, or will, and it adopts no methods for the specific reason that they train these faculties. It holds, rather, that if studies are selected for their bearing on the future life of the student, and taught in accordance with certain broad and clearly discernible principles, every native capacity of the mind will find its adequate exercise in an easy, natural manner. It is only an artificial psychology that demands artificial educational means.

The apperceptive ideas formed during the period of adolescence, during which all of secondary and a part of higher education is carried on, are of supreme importance. As President Hall points out, modern life tends to neglect broad, free, vigorous activity of the larger muscles, for delicate refinement of the smaller ones. The outdoor exercise of the pioneer, with his ax, his scythe, his gun, has given place to the sedentary occupations of shop or office. The eye that once scanned the landscape and watched the stars, now scans the line of words fourteen inches distant and four inches long. The old, full tide of emotional life is now dwarfed by convention. All its lions are caged; its birds sing only behind gilded bars. These are disadvantages of our highly conventionalized life, which education must counteract rather than exaggerate. Athletics and manual industry must give scope to the larger muscles and the more primitive emotions. Our course of study must take account of the culture-epochs of the race, to the extent at least of developing the deeper and more significant emotional life. Some of our studies should appeal to the primitive feelings of enthusiasm, patriotism, friendship, heroism, courage, determination; they should also touch the softer emotions of sympathy and affection. We must see to it that the fresh young life committed to our charge is not desiccated by too much highly conventionalized learning. To succeed thoroughly upon the fraction of activity assigned to each in the division of labor, we must have a whole man to start with.

Thus far the situation is as follows: (1) Broadly speaking, we look to civilization in its genesis, development, and present status as a guide to the selection of studies. (2) We look to the logical unfolding of the subject-matter, as modified by the general laws of apperception, for our guide in the sifting, arrangement, and co-ordination of topics in the various studies.

The crucible, however, in which all these elements find, or fail to find, their organic union is the recitation. It is here, in the quick sympathy of mind with mind, that insights are developed and healthy emotions aroused. It is here too that thought and memory are developed, that knowledge is co-ordinated, so that in a quick flash of intelligence we discern what bearing some word or deed of old has upon the actions of men to-day. It is to the recitation as a scientific adjustment of knowledge to mind that I wish chiefly to direct your further attention, for it is a subject to which the theories of Herbart make a substantial contribution.

The recitation is scientific in two senses, for it must be regarded from a double standpoint, viz., the matter to be learned and the mind that does the learning. It is in the happy synthesis of these two elements that the fine art of teaching consists. There is then a distinction to be made between a method of science and a scientific method. The first may ignore everything but the development of the subject-matter; the second must make full account not only of the subject-matter but of the power of comprehension; it must also consider the bearing that the recitation has upon the mind in all its aspects; it must regard the effect of to-day's lesson upon that of to-morrow; it must never lose sight of the fact that the correlation of knowledge is a principle to be observed, even if it is not always a programme to be followed.

In a certain sense high-school and college teachers may safely discard the refinements of method so often practiced in elementary schools. The more the mind is developed, the less need it has for short and easy steps, or for the multitude of devices that are so often resorted to in primary education for leading on the immature or feeble-minded. In another, and more important sense, however, no teacher needs scientific skill more than we ourselves. Our pupils come to us, for the most part, with the accumulated evil effects of mechanical teaching. All their knowledge is highly conventionalized. It is formal, narrow in range, and mostly unrelated to anything alive in the world. It is ours to wake up these educationally dormant minds. We must see to it that some of the splendid enthusiasm found in professional schools takes hold of our college and high-school students. Youth is quick in response to every earnest influence leading to higher ideals of conduct. It is deaf only to the artificial, the sentimental, the formal. None of these can light a fire in the heart of youth.

Language and mathematics come the nearest to being self-operating instruments in education, since of all branches they demand the least of the teacher and the most of the pupil. The minimum of teaching—namely, the setting of tasks and the examination of pupils during the recitation—may bring what some deem good results, since there is an almost mechanical adjustment of difficulties to power of overcoming them. The double translation to and from the vernacular compels the pupil to look up the meaning of all the words, and to determine their grammatical construction in order to arrive at or express the meaning. So likewise, the setting of problems for solution in mathematics compels an amount of effort on the part of the pupil quite out of proportion to that demanded of the teacher. Were the gymnastic theory of education the best, this might pass for good teaching, since the pupil is compelled to do a large amount of work. But when we once entertain the higher ideals of education, such teaching is seen to be woefully deficient. Furthermore, it leads to humiliating failure in the other departments, which have not yet become such perfect instruments for making students work. It is worth while, therefore, from every consideration, to inquire carefully into the requisites of a good recitation.

It is upon two primary stages of mental activity that Herbart bases his general laws of method. The first stage is that in which the mind gives itself up to the contemplation of an object. This self-surrender to objective facts ranges from the phase of wonder, which Plato says is the beginning of knowledge, to the absorption of the philosopher in the ultimate facts of the universe. Herbart calls this plainly recognizable stage of knowledge *absorption;* Rosenkranz calls it *estrangement*, but both mean the same thing. The latter declares that all culture, whatever may be its special purport, must pass through two stages, that of estrangement and its removal. The second stage is, therefore, the removal of the estrangement. It is the self-conscious recovery from absorption in the new and strange. Herbart calls this second stage *reflection*, describing it as an act of assimilation, which fits the new into the old experience. The wonder of the child changes to pleased intelligence as soon as he understands; the open mouth of the rustic at the fair gives place to a look of intelligent satisfaction as soon as he comprehends the novel spectacle; the minds of all return to self-conscious poise, at each recovery from the states of absorption, wherein the self is for the moment lost in the contemplation of the external and foreign. So constant is this interchange between absorption and reflection that Herbart calls them the inspiration and expiration of the soul.

This shuttle-like movement of our daily thinking is sometimes conceived as extending so as to cover whole courses of study, in which the periods of absorption in the distant or foreign last for years. Such, for instance, would be a study of the ancient languages or philosophy in which there should be no effort to make reflection assimilate the past to the present life. Dr. Harris, I am informed, once wrote an article on the Dons of Oxford and Cambridge, describing them as men who had become so completely absorbed in the ideals of the past that they were of little practical use to their own day and generation. They had so completely estranged themselves that the return to the concrete relations of the present was practically impossible. Such men see life in a dream. Their senses may respond mechanically to stimuli, but in reality they are antique minds dwelling in modern bodies. This type of character could hardly be esteemed outside of academic circles. It may perhaps be argued that this self-alienation from modern life for considerable portions of time will strengthen the mind, provided complete recovery is attained in the end. The danger is, however, that, if we allow the mind to wander too long, it will lose the power to synthesize its knowledge with the realities of to-day, so that the man will either discard his treasure as too remote to be of value, or else, clinging to his riches, he will pass his life among his ancestors. The Herbartian view seems to offer the safer application of the idea of self-estrangement and its removal, since the mind is encouraged to come to itself constantly in the light of its whole experience as developed both in and out of the school. The idea of correlation of studies does not allow ancient language, history, politics, economics, art, philosophy, to be divorced from their correlatives of to-day, but uses the facts of the present as the basis of our apperceptive centers for the past.

In our first apprehension of the double process of absorption and reflection, we may consider together the first two stages of what Herbart conceives to be a rational method, namely, *clearness* and *association.* If the mind is to lose itself for the moment in the contemplation of the new, it is evident that elements of the new must come clearly before it in proper sequence, and with all the force and reality possible. The element of wonder, or at any rate of pleasing surprise, is not undesirable even with high-school and college students. But very soon there must be sufficient reflection to give these facts significance enough to keep the student intent upon his problem until it is solved. In other words, association must enter in order that apperceiving centers may be utilized and developed. To illustrate these two stages with a familiar example, let us suppose that the pupil in geometry has reached the Pythagorean proposition concerning the square on the hypotenuse. Instead of plunging headlong into Euclid's demonstration, the teacher may well cast about for some gradual approach that shall enable the student more clearly to master the elements. Should he become interested in ocular demonstrations, no harm will be done. The simplest illustration of a single case of this proposition may, perhaps, be found in mosaic work in which the squares are filled with right-angled triangular tiles. A drawing will show that the squares on the two legs equal four triangular pieces, while the square on the hypothenuse also equals four triangular pieces of the same size. Turning to our history of mathematics, we find that the Egyptians had a constant incentive for the development of geometry in the annual survey of their lands made necessary by the overflow of the Nile. We find also that Pythagoras, whose name this proposition bears, probably learned from them that three lines in the ratio of three, four, and five, will make a right-angled triangle. His quick perception enabled him to see that the sum of the squares of three and four equals the square of five. The story that upon making this discovery he sacrificed a hecatomb is at all events interesting, whether true or not. We have now examined two special cases of this proposition. The question as to its universality will now naturally lie close to the pupil's consciousness. If the teacher is not afraid of wasting time in gradual approaches through the making clear of the elements, he may pass on to the year 1114 B. C., and present a universal ocular demonstration by the Hindoo Bhâskara. His figure is constructed by allowing the square on the hypotenuse to inclose the whole triangle, and in making each of the other three sides of the square the hypotenuse of another inscribed right triangle of the same dimensions as the first. In the middle will remain a small square, each side of which is the difference between the long and the short leg of the triangle. By rearranging these triangles into two rectangles at right angles to each other, with the small square placed in the corner, we have an ocular demonstration, which the pupils can verify by drawing, cutting out, and rearranging. The only explanation that Bhâskara vouchsafes is the single word, *See*. Thus far we have had three steps in clearness, with their appropriate associations: the mosaic with its isosceles right triangles, Pythagoras's right triangle with sides respectively three, four, and five, and Bhâskara's appeal to the eye. We may now proceed to the more rigid demonstration of Euclid, about whom some appropriate facts may be stated, as, for instance, that his book is still extensively used in England as an introduction to geometry. In drawing the ordinary Euclidian figure, we see that the square on the hypotenuse is divided into two parts, with which the squares on the legs may be compared. Being of different shapes, however, we cannot compare them directly, but perhaps we may be able to compare their halves. Thus we proceed to show, through an appeal to former knowledge, that the triangles constructed are halves of their respective rectangles, and that they are equal, having two sides and the included angle of the one equal to two sides and the included angle of the other. In this careful step by step approach each element comes in its appropriate place, is grasped with perfect clearness, is associated with its proper apperceiving ideas, while the whole is illumined with a glow, more or less bright, of human interest. The mind of the pupil is pleased with the conscious mastery of a difficult problem, instead of being dazed by what Schopenhauer calls the "hocus-pocus" of too precipitate Euclidian demonstration. As an illustration of neglect of these fundamental steps, I will confess that my senior class in psychology recently struggled for three days over Professor James's chapter on reasoning, in which there is a wilderness of words, until they were led to clearness upon the few fundamental elements by being asked to identify the wood of a pencil, and to find the purpose of an isolated part of a catch for a window blind. As soon as there was clearness concerning the elements, the whole chapter became significant; notwithstanding the fact that the author had chosen the first instead of the second figure of the syllogism to illustrate the reasoning process in sense-perception.

It is in the matter of clearness in the presentation of the elements of a lesson that the *orderly* mind especially manifests its strength; whereas, in forming the apperceiving associations, we need the ready questioner, the sagacious, fertile mind, which is able to give full, rich meaning to what seems at first insignificant, if not stupid, to the pupil. It may be seen also that these two steps are particularly important for memory. There is small need for mechanical memory for that whose elements are presented with vivid clearness, and which is firmly cemented to former knowledge through intimate association. It is only bad teaching that requires painful drill in mechanical memory. Clear apprehension, coupled with the repetition that comes from close and frequent association, will ordinarily fix knowledge securely in the mind. In this fact is found the explanation why German children remember so much history and geography and mathematics without the use of books. In science teaching the value of orderly clearness in the presentation of elements is generally recognized. Their association into interpreting groups of ideas is equally essential. In botany, for example, function is the all-important conception in the formation of the modes of comprehension which I have called apperceptive centers. The notion of the dispersal of seeds is the key to a large number of these centers. Thus the function of the hooks on the burr, the down on the thistle or dandelion, the wings on the maple or tulip seeds, the hard covering on apple seeds, and on nuts, becomes the starting places for groups of interpreting ideas relating to dissemination. The devices of nature for the fertilization of flowers, such as the presence of nectaries in both male and female blossoms, give rise to equally important apperceptive groups for this class of facts. In a similar way, the functions of leaf, stem, root, blossom, fruit become centers of crystallization for association.

In advanced mechanics it is of great importance that the student should learn to use his imagination freely in the apprehension of spatial relations. This power is acquired through the building up of concrete pictures by means of drawings, of graphical methods of representing the interaction of two elements like time and motion, or of picturing to the mind the lines of magnetic force. Then the development of the causal idea for all phenomena, like the idea of function in botany, becomes the cementing agency for the associations to be made among related elements.

The apperceiving centers to be developed in literature depend upon the nature of the matter and the leading purposes of the teacher. Thus, in the study of a play of Shakspere like *The Merchant of Venice*, the character of each prominent actor may become the center of an interpreting group of ideas. One should understand Shylock, and Antonio, and Portia well enough to know their method of looking at life, and to be able, it may be, to predict how each would act under given circumstances. Then there is the whole movement of the play, the development of the drama through the action of the *dramatis personæ*, each point of which becomes the center for the association of certain related ideas. If we are teaching Dante, each circle of the *Inferno* may be interpreted to mean a method of feeling and acting. The common experience of men in anger, *e. g.*, becomes, in this case, a basis of interpretation, to which new insights into the weakness, the folly, and the consequences of anger are added by a study of the play.

In political economy we have the task of converting the loose, hazy, popular ideas about wealth, labor, capital, rent, taxation, money, wages, interest, and the like into clear, well-defined scientific conceptions. These are transformed at once into apperceptive groups of associated notions which are the foundation of good thinking in this department of knowledge. In Greek grammar the development of verbs from their stems, the etymology of words based upon a knowledge of prepositions and roots, become in like manner centers of association. Every subject, in short, has its root ideas, which, clearly presented in their elements and firmly united by association, become the basis for easy, effective progress, and for efficient memory.

Enough has now been said, perhaps, to demonstrate the significance of the two stages of rational method already presented, viz.:

1. Clearness and order in the presentation of the elements of a subject, and

2. The association of related facts into those modes of understanding, or interpretation, which I have called apperceptive centers.

These two stages of method, fundamental as they are, do not, however, exhaust the subject; for reflection is not completed in association. The thinking process involves at least two other elements, which, being correlatives, may also be conveniently considered together. The first of this second group, or the third in the whole scheme, is the arrival at systematic generalizations, or laws and principles, usually through inductive approach; the last stage of method is the full and free application of these laws, partly for the verification of tentative hypotheses; partly for purely pedagogical reasons, such as facility in the use of acquired knowledge, the development of motives for action, or the opportunity further to correlate the various branches of study. In the main, this stage is one of deductive application of general laws. Herbart names the third stage of method—namely, that of the inductive arrival at generalizations—*system;* a name chosen not so much from the process as from the results of reflection. The fourth and last stage, or that of the deductive use of generalizations, we may with the Herbartians call application.

We all recognize the significance of initial inductive research in the various departments of natural science, as well as in other subjects like psychology, sociology, politics, and economics, when these are subjected to the methods of natural science; yet we must not forget that, as Jevons says, all inductive investigation consists of the marriage of hypothesis and experiment. Bacon would hear nothing of hypothesis as a recognized stage of method, and sought to make complete inductive approach to ultimate laws. But Jevons points out in his *Principles of science* that Newton, Descartes, Leibniz, Huyghens, Herschel, Huxley and Tyndall, to say nothing of

Darwin, all transform their partial inductions into hypotheses, which they at once begin to test deductively. The expression "working hypothesis" was a familiar one with Huxley. Herbart's idea of inductive approach to generalizations and their deductive application to experience finds, therefore, abundant justification in the modern application of scientific method. Most deductive syllogisms rest upon recognized inductions, while most concrete reasoning of daily life starts with identification by means of the second figure of the syllogism, then passes on to inductive generalizations by means of the third figure, and finally arrives at verification and application by means of the first.

A good method of teaching must, therefore, heed this fundamental need of the mind. A man that cannot think is not educated, though he may resemble the congressman of whom a colleague said: "You see that man walking with hands behind his back and with bowed head? He thinks he is thinking." The mind must develop the power of analysis, it must attain sagacity in the discovery of the links of association that bind phenomena together by law. The inference to which I would call especial attention is that this sagacity is developed by the self-activity of the pupil, and that self-activity is most effectively promoted by suggestive questions. It is not best to do the thinking for the class by "explaining" to them, while they sit in a state of passive receptivity. Telling is not teaching. It is the climbing of mountains that develops strength. The mind is not developed positively by the doing of easy things, much less by having everything done for it. A considerable part of the student's best thinking should be done in the recitation, where there are both stimulus and corrective. If no thinking is done in the class, then the whole process is remanded to the study, or entirely neglected. A student said the other day that he had spent three years in trying to memorize his mathematics. His classmate remarked that his failure might have been predicted three years ago. It is chiefly for his skill in inductive questioning that Socrates is still remembered.

With the scientist the chief purpose of deduction is, first, the test of hypotheses and then the more complete explanation of phenomena; with the teacher, however, the "tests" and the "discoveries" are mostly formal. It is not expected of high-school or undergraduate college students that they will advance any knowledge except their own. The purposes for which long-continued practice in the application of known principles is insisted upon are, therefore, rather in the interests of pedagogy than of science. The student should indeed learn how to test hypotheses, but a need that far transcends this is that he should attain readiness and skill and efficiency in the application of his newly generated insight into the laws governing human or natural activity. It is to this end that he solves problems in mathematics, applies the rules of syntax and etymology persistently to every page of foreign language translated, identifies the type in each subject studied in biology, applies the law to the explanation of every new phenomenon in physics, sees the principle animating every popular upheaval in politics or industry.

It is also for the purpose of fixing knowledge still more firmly in memory that this final step is taken. Every stage of the recitation has a bearing upon the subject of memory. Clearness — association — generalization — application: each stage is an opportunity to fix permanently in mind the things that should be remembered.

Finally, to emphasize a single point in ethical training, another pedagogical purpose of this systematic exercise in reasoning, which we might keep more steadily in mind than we do, is the correction of the natural confidence of the callow mind in the all-sufficiency of his morsel of knowledge. Nothing is more common among youth, when intoxicated with their first draughts of learning, than to be seized with a seemingly profound skepticism respecting everything that cannot be put under the microscope or into the crucible or scale. To him faith in things not seen is superstition, except in so far as they are subject to scientific inference. Skepticism or agnosticism quite displaces the faith of childhood. To one in this condition, the educated mind has no room for faith. The corrective for this abnormal phase of thinking is to be found in science itself, for a second glance at her mysteries sobers the mind. The hypotheses upon which the scientist most confidently relies are full of incomprehensible things. What article of faith in the intelligence and goodness of the Creator has more astounding difficulties than the undulatory theory of light? Its hypothesis presupposes an ether filling interstellar space to which must be ascribed the most surprising qualities. Herschel declares that we must consider it absolutely solid and elastic. Its elasticity, he says, must be reckoned as 1,148,000,000,000 times as great as that of the atmosphere, so that its pressure per square inch amounts to 17,000,000,000 pounds. There being no interstices in this substance, everything that exists within its folds must be subject to this enormous pressure. Yet the worlds swing silently in their orbits, and man plays out his little drama, unmindful of its annihilating force. It indeed is the merit of science that she destroys superstitions; it is her glory that she assumes the garments of humility. The young will quickly catch her reverent spirit, unless hindered by shallow teaching.

CHARLES DE GARMO

SWARTHMORE COLLEGE,
SWARTHMORE, PA.

V

IS THERE A NEW EDUCATION?[1]

The gentlemen who have preceded me in this office have been, in every case, the chief administrative officers of great educational institutions. In their addresses before this Association they have accordingly discussed broad questions of educational policy and educational organization; and they have done so with a vigor and a clearness that greatly delighted and instructed us. On this occasion, however, your president comes not from the administrator's chair but from the pedagogue's stool. He will not apologize, therefore, for detaining you with a somewhat academic discussion of a more or less technical subject.

The title of my discussion is designedly thrown into the form of a question; for my purpose is, if possible, to provoke a difference of opinion—always a healthier and more productive intellectual state than the dull mediocrity of agreement. Difference of opinion begets doubt, doubt begets inquiry, and inquiry eventually leads to truth. Vergil's fine line,

> Felix qui potuit rerum cognoscere causas,

is profoundly true; but more fortunate still is he who comes to his knowledge by the sure method of honest doubt.

For a generation we have been doing lip-service to the doctrine of evolution; but only with great slowness and difficulty do our old forms of speech and our old habits of mind fit themselves to the new point of view that makes so strong an appeal both to our reason and to our imagination. In no department of knowledge is this more true than in the field of education. For education is essentially a conservative process; it cherishes its time-worn instruments and reveres its time-honored standards. The treasures of the mind are too precious to be lightly exposed to the loss or harm that might come to them through change. Yet the opinion has found lodgment among our craft that after all, and despite the excellence of old methods and old standards, the educational theory and practice of a given age or generation must stand in close relation to its intellectual and ethical ideals and to the material fabric of its civilization: and surely all three of these habitually vary, not only over long periods but in relatively short intervals of time. It is a grave matter for the teacher if virtue is identical with knowledge, as Socrates taught; or if it is the result of habit, as Aristotle held; or if it is the cunning invention of rulers, as Mandeville suggested; or if it is mere skill in calculating the chances of pleasure and pain, as Bentham laid down. It is important, too, primarily for the higher education, but eventually for the lower schools as well, if our intellectual ideal is represented by the active mind of a Leibniz or a Gladstone, with its immense energy and broad range of interests; or if it is better typified by the narrow, plodding specialization of a Darwin or of those Teutonic philologers who are unduly distracted if their investigations cover more than the gerund or the dative case. Still more directly must our education depend upon the material equipment of the time. In this day of innumerable printing-presses, with a power of production sadly out of proportion to their power of discrimination, of instantaneous diffusion of knowledge, it is quite inconceivable that we should not find ourselves forced to con anew the grounds on which rest the principles and methods that have come down to us from the age of manuscripts and pack-saddles. Such a process of questioning has been under way for some time past, and has contributed in no small degree to that marvelous enthusiasm for education and belief in it, the evidences of which are to be seen on every hand.

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[1] Presidential Address delivered before the Association of Colleges and Preparatory Schools of the Middle States and Maryland, at Easton, Pa., November 29, 1895.

There are three avenues of scientific approach to the study of education, and in each of them the evolutionary point of view is not only illuminating but controlling. These three avenues are the physiological, the psychological, and the sociological. Their points of contact are many and their interrelations are close. Modern psychology has already given up the attempt to treat mental life without reference to its physical basis, and it will sooner or later regard any interpretation as incomplete that does not relate the individual to what may be called the social life or consciousness. Man's institutional life is as much a part of his real self as his physical existence or his mental constitution. *Robinson Crusoe* is, in one of the catch phrases of the day, a barren ideality.

It must be admitted that this point of view is both very old and very new. It is very old, for it was Aristotle himself who wrote, "Man is by nature a political animal. And he who by nature, and not by mere accident, is without a state, is either above humanity or below it."[2] It is also very new, for it is in flat contradiction to the doctrine of Rousseau, "Compelled to oppose nature or our social institutions, we must choose between making a man and a citizen, for we cannot make both at once"[3]—the crudeness and superficiality of which have not prevented it from exercising a wide and long-continued influence. Modern philosophy confirms here, as so often, the analysis of Aristotle, and it rejects, as is becoming customary, the extreme individualism of the eighteenth century. The significance of this for our educational theory is all-important.

Returning now to the first of the three pillars on which the modern study of education rests—the physiological—it may be useful to recall briefly what consideration has been given to it in the past. All of the older culture-nations laid stress upon it, and some of them dealt with it in systematic fashion. But the Greeks alone understood the educational value of play. Their great national games combined systematic physical training and play in a way that we have not yet succeeded in equaling. The ascetic ideal that ruled the schools of the Middle Ages left no place for a continuance of the Greek practice, and it was forgotten. We find ourselves to-day struggling to imitate it. In Germany systematic physical training is made much of in education, but genuine play is not prominent.

[2] *The Politics of Aristotle*, I, 2 (Jowett's translation, Oxford, 1885, p. 4).

[3] Rousseau's *Émile* (Payne's translation, New York, 1893), p. 5.

In England, on the contrary, play has been found so successful in developing strength and suppleness of body and sturdy, independent character that anything approaching systematic, formal training is regarded as almost unnecessary. In this country the present tendency is to develop both elements, after the fashion of the Greeks, and it is to be hoped that the outcome will be even more satisfactory than it was at Athens and at Corinth.

But physical and physiological considerations cut far deeper than this. They demand a hearing when questions of school hours and recesses, of programmes and tasks, of school furniture, of text-books and blackboards, of light, heat, and fresh air, are under discussion. On all of these topics we have recently learned much that has not yet found its way into our practice. College faculties and school teachers, framers of examination tests, donors of laboratories and dormitories, and, most of all, architects, are as a rule oblivious to the vital interest that the pupil has in matters of this kind. Considerations of tradition, convenience, cost, and external appearance are allowed full swing, and the growing youth must fit the Procrustean bed as best they can. The signs of mal-nutrition and weakness, as described, for example, by Warner, and the laws of mental and physical fatigue, as arrived at by such investigations as those of Mosso and of Burgerstein, are about as familiar, to members of this Association for instance, as are the Laws of Manu. And yet they affect vitally every young man or young woman that enters a schoolroom or a college. No amount of thundering eloquence on the value of the ancient classics, no emphasis on character as the sole end of education, can make amends for our failure to study the facts dealing with the physical and physiological elements in education, and for our delay in applying them. We need to be strongly reminded that wickedness is closely akin to weakness, and then to consider the moral consequences of our physiological ignorance.[4]

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[4] Compare "Moral education and will-training," by G. Stanley Hall, in *Pedagogical Seminary*, II. 72–89.

The relation of psychology to education is the one subject on which the teacher of to-day is supposed to be informed. Normal schools without number, and here and there a college, give definite instruction in the subject. Yet a careful inspection of the most popular text-books in use, and visits to some hundreds of classrooms, have convinced me that the results of this knowledge, if it exists, are, in the field of secondary and higher education, almost *nil.* In this respect the elementary teacher is far in advance of us. No secondary school or college in America can show teaching to compare, in mastery of scientific method and in technical skill, with the best teaching to be seen in many of the public elementary schools, particularly in the Western States. In consequence of this, we may safely assume that pupils fresh from the vigorous intellectual and moral growth of a well-conducted elementary school, will turn aside from the machine methods and dull, uninspiring class-exercises of our average academy with disgust. The new educational life-blood is flowing most freely and vigorously in the veins of the elementary teacher. Here and there a secondary schoolmaster, and here and there a college president or professor, takes a genuine and intelligent interest in education; but the vast majority know nothing about it and care less. They turn on and off a certain amount of educational material each day, and accumulate what they are pleased to term "experience"; but their relation to education is just that of the motorman on a trolley-car to the science of electricity. They use it; but of its nature, principles, and processes they are profoundly ignorant. The one qualification most to be feared in a teacher, and the one to be most carefully inquired into, is this same "experience." I am profoundly distrustful of it. The pure empiricist never can have any genuine experience, any more than an animal; because he is unable to interrogate the phenomena that present themselves to him and so to understand them. The scientific teacher, the theorist, on the contrary, asks what manner of phenomena these are that are before him, what may be their inner relations, and on what principles they are based. This, of course, is the first great step, taken by all scientific method, toward a knowledge of causes. It is at this point that we reach the real reason for the need of an accurate knowledge of psychology on the part of the teacher. His dealings in the schoolroom are primarily with mental processes and mental growth. Unless these are scientifically studied and understood, or—and this does not happen often—unless natural psychological insight comes to the rescue of psychological ignorance, the teaching is bound to be mechanical; and the longer it is continued, the more "experience" is acquired, the more wooden and mechanical it becomes.

Within two years I was present at an exercise in modern history, given to an undergraduate class, averaging over eighteen years of age, in one of our Eastern colleges. The text-book in the hands of the students was of a very elementary character, and is much used in public high schools, both East and West. The teacher was a college graduate, and had held his position for several years. These years had been years of "experience," and would have been strongly urged as an important qualification had his name been under consideration for promotion or for transfer to another institution. Yet the entire hour that I spent in his class was given up to the dictation of an abstract of the text-book. This, he told me, was his usual method. The students took down the dictation, word for word, in a dull, listless way, and gave a sigh of mingled despair and relief when it came to an end. This process went on several times weekly for either one or two years. I ascertained from the instructor that he called it "hammering the facts home." He is, for aught I know, "hammering" yet, and now has some additional "experience" to his credit. So have his pupils.

Not long ago a prominent publishing firm issued a widely advertised text-book on a subject much taught nowadays. For the purposes of real teaching, of arousing interest and enthusiasm in the subject, and of stimulating the student to pursue it farther, to reflect upon it, and to make its lessons his own, it was as ill-adapted as any printed matter occupying the same number of pages could be. As a compendium of bare facts and dates to be committed to memory, and reproduced in answer to definite questions, it was clear and concise. Despite this fact, the publishers have recently issued a circular commendatory of the book, that contains two-score cordial indorsements of it as a text-book, over the signatures of as many high-school and college teachers. I interpret that to mean that those two-score teachers lack either educational intelligence or educational conscience; perhaps both.

No amount of psychological learning could make it impossible for the inquirer to find cases like these, and the hundreds of others of which they are typical, in the schools and colleges; but a psychological training on the part of the teacher would go far to diminish their number. Professor Royce pointed out[5] several years ago that what the teacher has chiefly to gain from the study of psychology is, not rules of procedure, but the psychological spirit. The teacher, he adds, should be a naturalist and cultivate the habit of observing the mental life of his pupils for its own sake. In this he will follow the method common to all naturalists: "What is here in this live thing? Why does it move thus? What is it doing? What feelings does it appear to have? What type of rudimentary intelligence is it showing?" Such questions as these form the habit of watching minds, and of watching them closely. This habit is the surest road to good teaching, and its formation is the best service that psychology can render to the classroom. Until a teacher has formed that habit and subordinated his schoolroom procedure to it, he is not teaching at all; at best he is either lecturing or hearing recitations.

We are chiefly indebted to the students and followers of Herbart for the present widespread interest in this country in two psychological doctrines of the greatest importance for all teaching—the doctrine of apperception and the doctrine of interest. The former has to do with mental assimilation, the latter with the building of character and ideals. I know of no more fruitful field for the application of both of these than the freshman year of the college course. My observation has taught me that the work of the freshman class in college is, as a rule, very ineffective. College teachers who admit this fact are in the habit of accounting for it by alleging the difficulty of welding into a homogeneous mass the new students of different advantages, training, and mental habits. The task is more than difficult; it is impossible, and ought never to be attempted, much less encouraged. That it goes on year after year in a hundred colleges is due to the strait-jacket system of class teaching by which we defy the rules of God and man to the glory of what, in our professional cant, we call "sound education." If we could secure a hearing for the doctrine of apperception, all this would be changed. It would be recognized in our practice as it is in our faith that the mind is not a passive recipient of the impressions that reach it; that it reacts upon them, colors them, and makes them a part of itself in accordance with the tendency, the point of view, and the possessions that it already has. This tendency, this point of view, and these possessions differ in the case of every individual. Instead of overlooking or seeking to annul these differences, we should first understand them and then base our teaching upon them. If the first month of freshman year were spent in carefully ascertaining the stage of development, in power and acquirement, that each pupil had reached, it would be possible so to order and adjust the work of the year as to make it useful and educative. I have known case after case in which the opposite policy of treating all upon one plane, and making the same demands upon all, has made a college course a source of positive harm. It also accounts, in greater measure than we are aware of, for the large proportion of students who fall away at the end of the freshman and sophomore years. Yet so long as college teachers know so little psychology as to cling to the old dogma of formal discipline, and continue to pound away on so much mathematics to train the reasoning powers and so much Greek grammar to train something else, regardless of the content of the instruction and of all other considerations—just so long will one mind be lost or injured for every one that is saved or benefited. As Colonel Parker has so forcibly said, "We dwell on those who have been saved by our older methods, but who has counted the lost?"

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[5] "Is there a science of education?" in EDUCATIONAL REVIEW, I: 15–25; 121–132.

The situation is not very different with respect to the doctrine of interest. We continually complain that valuable and necessary instruction given in school and in college is forgotten, is not retained, extended, and applied. The fault lies partly, no doubt, with the pupils, but largely with ourselves. We have still to learn what interest means, how it is changed from indirect to direct, and how it is built up into a permanent element of character. We are inexperienced in seeking out and seizing upon the present and temporary interests of the student, and in using them as a factor in training. It is a common thing to hear it said that since life is full of obstacles and character is strengthened by overcoming them, so the school and college course should not hesitate to compel students to do distasteful and difficult things simply because they are distasteful and difficult. I do not hesitate to say that I believe that doctrine to be profoundly immoral and its consequences calamitous. But, it is answered, you certainly would not trust to a student's whims and allow him to do or not do as he pleases. Certainly not; and that is not the alternative. The proper and scientific course is to search for his empirical interests, not his whims, and to build upon them. This is not always easy; it requires knowledge, patience, and skill. Therefore we do not do it. It is far easier to treat the entire class alike and to drive them over the hurdles set by a single required course of study, in the vain hope that the weak and timid will not be injured as much as the strong and confident will be benefited, and that somehow or other the algebraic sum of the results of the process will bear a positive sign. I earnestly commend to every high-school and college teacher the study of these two principles, apperception and interest. I do so in the firm belief that the practical result of that study would be an immense uplifting of the teaching efficiency of the institutions represented in this Association.

What, for lack of a better term, I call the sociological aspect of education is, in many respects, the most important of all. Under this head are to be put such questions as those that deal with the aim and limits of education, its relation to the state, its organization and administration, and the course of study to be pursued. I can refer to but a single one of these topics. Dr. Harris, in the opening paragraphs of his well-known report on the correlation of studies, dealt a final blow to the idea that the course of study is to be settled either by tradition or by conditions wholly psychological. "The game of chess," he points out,[6] "would furnish a good course of study for the discipline of the powers of attention and calculation of abstract combinations, but it would give its possessor little or no knowledge of man or nature. . . Psychology of both kinds, physiological and introspective, can hold only a subordinate place in the settlement of questions relating to the correlation of studies." He goes on to show that the chief consideration to which all others are to be subordinated is the "requirement of the civilization into which the child is born, as determining not only what he shall study in school, but what habits and customs he shall be taught in the family before the school age arrives; as well as that he shall acquire a skilled acquaintance with some one of a definite series of trades, professions, or vocations in the years that follow school; and, furthermore, that this question of the relation of the pupil to his civilization determines what political duties he shall assume and what religious faith or spiritual aspirations shall be adopted for the conduct of his life."[7] It is at this point that the study of education from the sociological point of view begins. Instead of forcing the course of study to suit the necessities of some preconceived system of educational organization, it should determine and control that organization absolutely. Were this done, the troubles of the secondary school, the Cinderella of our educational system, would disappear. Just at present it is jammed into the space left between the elementary school and the college, without any rational and ordered relation to either. The ever-present problem of college entrance is a purely artificial one, and has no business to exist at all. We have ingeniously created it, and are much less ingeniously trying to solve it. Leibniz might have said that mental development, as well as nature, never makes leaps. It is constant and continuous. The idea that there is a great gulf fixed between the sixteenth and seventeenth, or between the seventeenth and eighteenth, years, that nothing but a college entrance examination can bridge, is a mere superstition that not even age can make respectable. It ought to be as easy and natural for the student to pass from the secondary school to the college as it is for him to pass from one class to another in the school or the college. In like fashion, the work and methods of the one ought to lead easily and gradually to those of the other. That they do not do so in the educational systems of France and Germany is one of the main defects of those systems. The American college as a school of broad and liberal education, a place where studies are carried on with reference to their general and more far-reaching relations, is indispensable for the very reason that it permits and encourages the expansion and development of school work in the broadest possible way, before the narrow specialization of the university is entered upon. Happily, there are in the United States no artificial obstacles interposed between the college and the university. We make it very easy to pass from the one to the other; the custom is to accept any college degree for just what it means. We make it equally easy to pass from one grade or class to another and from elementary school to secondary school; the presumption always being that the pupils are ready and competent to pass on. The barrier between secondary school and college is the only one that we insist upon retaining. The intending collegian alone is required to run the gauntlet of college professors and tutors who, in utter ignorance of his character, training, and acquirements, bruise him for hours with such knotty questions as their fancy may suggest. In the interest of an increased college attendance, not to mention that of a sounder educational theory, this practice ought to be stopped and the formal tests at entrance reduced to a minimum.

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[6] *Report of the Committee of Fifteen on elementary education* (New York, 1895), p. 42.

[7] Ibid., p. 41.

Public opinion itself, despite the protests of the pundits of the faculties, is forcing an extension of the course of study. It is one of the best bits of grim humor that our American practice, inherited from the mother country, affords, that the designation "liberal" has come to be claimed as the sole prerogative of a very narrow and technical course of study that was invented for a very narrow and technical purpose, and that has been very imperfectly liberalized in the intervening centuries. It ought to soften somewhat the asperity of teachers of Greek to remember that the very arguments by which they are in the habit of resisting the inroads of the modern languages, the natural sciences, and economics, were used not so many hundreds of years ago to keep Greek itself from edging its way into the curriculum at all. Paulsen is indubitably right in his insistence upon the fact that the modern world has developed a culture of its own, which, while an outgrowth of the culture of antiquity, is quite distinct from it. It is to this modern culture that our education must lead. The first question to be asked of any course of study is, Does it lead to a knowledge of our contemporary civilization? If not, it is neither efficient nor liberal.

In society as it exists to-day the dominant note, running through all of our struggles and problems, is economic; what the old Greeks might have called political. Yet it is a constant fight to get any proper teaching from the economic and social point of view put before high-school and college students. They are considered too young or too immature to study such recondite subjects, although the nice distinctions between the Greek moods and tenses and the principles of conic sections, with their appeal to the highly trained mathematical imagination, are their daily food. As a result, thousands of young men and young women, who have neither the time, the money, nor the desire for a university career, are sent forth from the schools either in profound ignorance of the economic basis of modern society, or with only the most superficial and misleading knowledge of it. The indefensibleness of this policy, even from the most practical point of view, is apparent when we bear in mind that in this country we are in the habit of submitting questions, primarily economic in character, every two or four years to the judgment and votes of what is substantially an untutored mob. If practical politics only dealt with chemistry as well as with economics, we could, by the same short and easy method, come to some definite and authoritative conclusion concerning the atomic theory and learn the real facts regarding helium. But since the economic facts, and not the chemical or linguistic facts, are the ones to be bound up most closely with our public and private life, they should, on that very account, be strongly represented in every curriculum. We can leave questions as to the undulatory theory of light and Grimm's and Verner's laws to the specialists; but we may not do the same thing with questions as to production and exchange, as to monetary policy and taxation. Therefore the course of study is not liberal, in this century, that does not recognize these facts and emphasize economics as it deserves. I cite but this one instance of conflict between the inherited and the scientifically constructed course of study. The argument and its illustration might be much extended.

I have now indicated how I should answer my own question, and have briefly pointed out typical grounds on which that answer rests. It remains to add a few words regarding the attitude of college faculties and schoolmasters toward the scientific study of education. The recklessness with which the man of letters, sometimes the college president, and now and then even the more canny college professor, will rush into the public discussion of matters of education concerning which he has no knowledge whatever and to which he has never given a half hour's connected thought, is positively appalling.

Opinion serves for information, and prejudice usurps the place of principle. The popular journals and the printed proceedings of educational associations teem with perfectly preposterous contributions bearing the signatures of worthy and distinguished men, who would not dream of writing dogmatically upon a physical, a biological, or a linguistic problem. For some recondite reason they face the equally difficult and unfamiliar problems of education without a tremor. The effect is bad enough on the colleges and schools themselves, but it is far worse on the public generally, who are thus led off to the worship of false gods. Even in the largest American institutions, where most is at stake, the men who give any conscientious and prolonged study to education itself, as distinct from the department of knowledge in which their direct work lies, can be counted upon the fingers of one hand. As a consequence, many college faculties are no better qualified to decree courses of study and conditions of admission than they are to adopt a system of ventilation or of electric lighting. In time, doubtless, this will be recognized, and in the former case, as in the latter, the faculties will submit to be guided by specialists who do know. That will never come to pass, however, until school and college teachers see clearly that scholarship is one thing and teaching skill quite another; that long service in a school or college is quite as compatible with ignorance of education, scientifically considered, as long residence in a dwelling is compatible with ignorance of architecture and carpentry. When that light breaks, there will be very little discussion as to whether or not there is a new education, and many now familiar voices will be hushed.

Dr. Johnson's acumen was equal to drawing a distinction between the new as the hitherto non-existent, the new as the comparatively recent, and the new as the hitherto unfamiliar. In each and all of these senses of the word, I am confident that there is a new education.

NICHOLAS MURRAY BUTLER

COLUMBIA COLLEGE,
NEW YORK

VI

DISCUSSIONS

MR. LUKENS ON THE CORRELATION OF STUDIES

I should like to offer a word of comment upon the excellent paper by Mr. Lukens which appeared in the November issue of the REVIEW.[1] I feel that I must enter a disclaimer to the conception of correlation which he assigns to me in that article. It is the idea of correlation founded upon or growing out of the *interrelation of subjects*. In a scheme based upon such a conception, the different subjects would have to be recognized as being *mutually* valuable and important. In constructing a course of study, the work of the educator would be to sift out from the various subjects all those parts which match and then treat them, when put together, as so much unified knowledge. The unifying thought, depended upon thus to tie the parts into a whole, would vary according to the judgment of the individuals who propose the plan or who do the sifting. Such an arrangement might be called *illustrative* correlation, but it cannot be fundamental and all-embracing in its character. It is the most common kind of correlation; but it differs just as widely from my conception of true organic correlation as rhyming does from poetry. As an illustration: In nature-study, the pupils are studying autumn leaves. In literature, the teacher makes a selection of, say, "The anxious leaf," by Beecher, as a reading lesson, which fills this beautiful change with a personality, and the correlation of the two subjects is regarded as somewhat complete. The intimacy and strength of the correlation is made to depend upon what there is in one subject which can be used to suggest the other. Where this conception of correlation prevails the only question that seems to need settlement is as to which shall take the initiative in suggesting—not a difficult problem at all, if decided upon psychological grounds. That there is much beauty and usefulness in this mutual enhancement of subject-matter, there can be no doubt In the early grades, especially, the interest of the child is vastly increased thereby. The inherent weakness in the conception, however, lies in the fact that after the utmost has been accomplished by this plan of correlation, there will always remain a great amount of material in all the subjects that can never be arranged, correlatively, according to this idea; and yet it would be absurd to suppose that such outside matter is noneducative. This is made strikingly apparent by the rapid advancement of modern science. Much of the subject-matter dealt with in science can find absolutely no direct enhancement in literature, either because it was totally unknown to the authors of that literature, or because they had not, in their day, accepted the facts as truth. This idea, therefore, practically excludes the best there is in science from correlation with much that is the best in literature, and it is evident that such a relation must always exist between these two important subjects.

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[1] X: 364.

My conception of the organizing center or thought in correlation is not the *fortuitous suggestiveness* of the subjects, but it is the present needs of the developing child; the life of the child, therefore, becomes the controlling center. If this seems indefinite, it is simply because the teacher's knowledge of what the developing child actually needs is indefinite, and it does not constitute a valid objection. The plan may be illustrated thus: Tardiness, for example, is a common school offense, everywhere present. It is usually treated as a from day-to-day matter, and is kept in subjection by bribes or threats which are absolutely unrelated to the means that the teacher is using in teaching anything else. The fact is, tardiness is no such trivial matter; it is the infraction of a great natural law, the persistent and general violation of which would disintegrate society itself. Does this proposition find any support in history? Does it find any backing in science? If so, then here is a splendid opportunity for the teacher to make the lessons of history and the lessons of science mean something. Do they mean the same thing? If so, then the correlation of these two subjects becomes organic, and they exert a joint fundamental influence in the life of the pupil upon the moral point involved. Tardiness is but a single example. Every act of the pupil is performed under law, and the subject-matter used in schools has no function except to make the pupil intelligent under that law. Through this conception, there is a constant, direct, and normal demand for the latest and best that science has to offer, and teachers will not feel that they have to search through all literature for some catchword to suggest it, before they dare use it, for fear they may violate some canon of correlation. School histories will have to be rewritten; but when the great moral influences of history are massed together and are brought to bear like a trip hammer upon the daily experience of the pupil, then will its real potency in shaping destiny become apparent. The study of nature must be from precisely the same motive, and consequently there can be nothing but correlation. Every mood of nature points to a law, universal, inexorable, and she offers absolutely no hope to the individual who fails, through ignorance, or otherwise, to make his daily acts subservient to its operation.

In a word: all studies must focus directly upon moral development, that is, upon character-formation. The fundamental relation to be recognized in correlation is that which exists between the subjects *through* the child, not merely the *interrelation* independent of the child. If the *direct relations* of the various parts of subject-matter to the present and immediate needs of the child be clearly determined through a careful study of his activities, the interrelations of such parts will largely take care of themselves. Conflict will be hardly possible.

WILBUR S. JACKMAN

COOK COUNTY NORMAL SCHOOL,
ENGLEWOOD, ILL.

ARITHMETIC WITHOUT QUANTITY

In the October number of the EDUCATIONAL REVIEW[1] Superintendent Burk of Santa Rosa criticises the views of Dr. Harris on number and number-teaching, as set forth in the Report of the Committee of Fifteen. This whole criticism is vitiated by a misconception of certain primary principles in the psychology of number.

The difference between Dr. Harris and his critic—and the difference is fundamental—stated briefly, yet correctly, is this: Dr. Harris would have an arithmetic based on number and quantity, and a method of teaching based on the psychology of number and quantity: his critic would have an arithmetic without number and quantity, and a method of teaching which completely ignores their psychology. That the critic believes it possible to construct an arithmetic without number

[1] X: 282.

is seen clearly enough from the following quotations from his criticism:

> "Arithmetic, as the term is used to designate a certain class of instruction in the elementary schools, has indeed very little to do with quantity."
>
> "The Report, in basing arithmetic instruction upon a foundation of number and quantity, certainly makes a very grave assumption."
>
> "Are there not grounds for question if quantity has any place in the elementary school whatever?"
>
> "Quantity is a matter which holds an infinitesimal place in the exercise which we call arithmetic in the actual school."

This belief in an arithmetic without number and quantity forms the ground of the attack upon the position taken by Dr. Harris in the Report, namely, that number and quantity are the content of arithmetic, and that the clear apprehension of this is an essential factor in a rational method of teaching.

From this it is clear that Dr. Harris and his critic are as wide as the poles asunder. The latter believes in a qualitative arithmetic, an arithmetic of observed objects, and in the improvement of present methods by greater attention to "quality and language." Dr. Harris believes in an arithmetic of number as the measurement of quantity, and in the improvement of present methods by greater attention to the quantitative idea—to measured quantity rather than to observed quality. Mr. Burk's logic as well as his psychology is at fault, for he asserts that there is no essential difference between Dr. Harris's theory and the present methods.

Superintendent Burk seems to have a horror of the definitions and conceptions of the "closet mathematician" and sees a broad distinction, not to say a direct antagonism, between the "scholarly and rational" ideas of a subject and the pedagogical ideas; that is, the ideas through which the subject may be made an effective instrument of education. He is constantly placing in opposition the *what and how* an adult mind thinks and the *what and how* a child mind thinks. But are we to have a pedagogy grounded on the hazy ideas of the mere workshop empiricist, or upon the "scholarly and rational" conceptions of the "specialized brain"? The peril to pedagogy is not in the scientific conceptions of the "closet philosopher," but in the incoherent conceptions and machine-like practice of the workshop empiric.

Nor is there any ground for the assumption now so frequently made, that the action of the child mind is totally different from the action of the adult mind. The child is, by his very constitution, a thinker. He is not a mere passive recipient of sensations. There is indeed a hunger of the senses; but there is a deeper hunger of a something that uses the senses; a hunger for the knowledge which is built up out of sense-materials, and for the activity through which this knowledge comes. "Who can tell what a baby thinks?" No, indeed, we cannot tell, very accurately, *what* a baby thinks; but we can tell with no small degree of certainty *how* a baby thinks. There is continuity in mental life; the law of evolution holds in the growth of concepts. The greatest mathematician's conception of number—clear, definite, and all-embracing as it is—had its beginning in the simple acts of the child in counting and measuring familiar quantities. If the opposite doctrine were true, all our child-study would be in vain; we have no organ of interpretation—if even of observation—for the facts of child-life, and we shall have to wait till some child-philosopher produces a philosophy of childhood, and deduces a pedagogy applicable to pupils of "from five to fourteen years in the elementary schools."

Superintendent Burk's entire paper is weakened by his fundamental error in assuming that the thought-processes of the child are essentially different from the thought-processes of the adult. The author of the Report, he says, is dealing with the arithmetic of his own brain, "rather than with the mathematical conceptions of children," and he proceeds with his criticism as follows:

> "To count," says the Report [*i. e.*, to determine the *how many* that defines the *how much*], "one drops the qualitative, and considers only the quantitative aspect." This definition, says the critic, is made the corner-stone of the treatment of the subject, and with naïve simplicity the author proceeds, his definition being admitted as a foundation, to show how the child builds from it mathematical conceptions. This definition is not to be questioned as the definition of a certain mental state in the developed brain of an adult and educated mathematician. But it cannot be intelligently admitted that such a definition at all defines the process in the brain of a child from five to fourteen years of age. It is the result of years of mathematical training. The Report at once has placed itself without the sphere of childhood, with which it is supposed to deal.

At the risk of being classed with the *un*-intelligent, I say that in this definition I recognize the fundamental principles in the psychology of number; and in the "naïvely simple" procedure which the critic speaks of I recognize the spontaneous movement of a philosophic mind, which, having firmly grasped a fundamental truth, proceeds with freedom through all its correlations. "This definition," says the critic, "is the result of years of training." Suppose it is; what has the child to do with the definition? It describes a process of the adult mind; with equal truth, it describes a process of the child mind. What then? Is the child expected to be conscious of his mental processes, and even to give definitions of them? I am sure that very few adults can give a "definition" of the mental process by which a vague whole of quantity is made definite. But the process is there, and can be described by those who have made a like process in their own minds an object of conscious attention.

So this process, the process of "dropping the qualitative and considering only the quantitative," is the process of the child's mind in counting; that is, it is the process when the child's mind is allowed to act normally. The normal action is, of course, thwarted by the irrational arithmetic of quality, and the servile worshipers of qualitative unities. For when the child, in counting and measuring, is forced, by the workshop routinist, to dwell upon the "qualitative aspects"; to exercise his growing power of discrimination and relation upon the qualities of things, carefully noting perceived objects, and all the qualities that make them what they are, the mental movement of numerical abstraction and generalization, which alone results in numerical ideas, is either impeded, or absolutely arrested. But let the child be interested in finding the *how much* of some *quantity;* then, in his operation of counting and measuring, he will inevitably "drop the qualitative and consider only the quantitative aspect." Every parent has seen the little one counting the groups of familiar things about him; has seen and rejoiced in it as indicating a higher energy struggling for expression. Coming to our own experiences, all of us will doubtless remember how we counted out our playthings according to this "*a priori* law of thought"; abstracting and generalizing, dropping the qualitative and attending to the quantitative. We did not know indeed that we were working under an "*a priori* law of thought." We only knew that when our playmates challenged us to a comparison of treasures, of playthings, namely, we emptied our capacious pockets of all that they contained—common marbles, china alleys, glass alleys, jewsharps, knives, tops, whistles, peashooters, and so on—motley quantities they were; but they were *quantities;* quantities needing measurement to decide the question as to who was the richer or richest boy. Was ours then an arithmetic of the qualitative or of the quantitative sort? To get at the *how much,* did we note the objects and all about the objects? Did we compare the common marbles with the "alleys," or dissociate tops from catapults, and whistles from jewsharps, because of differences of size or shape or color; in a word, did we carefully attend to the endless diversity of qualities in the individual things? Our acts were with the theory of Dr. Harris, and against the hypothesis of Superintendent Burk; we obeyed an "*a priori* law"; we dropped the qualitative aspect, and considered only the quantitative. We saw in an instant that top, and marble, and whistle, and knife, whatever their qualitative differences, were alike in this—they were *playthings*—and therefore each contributed its part in making up the "how many" which defined the "how much," the end or purpose we had in view.

Take another instance of the critic's argument from his erroneous premises that arithmetic has nothing to do with quantity and that a child cannot think. Dr. Harris says in the Report: "In thinking five-sixths the child first thinks five and then six, and holding these two in mind thinks the result of the first as modified by the second." Upon this Superintendent Burk remarks: "In a developed brain this is a possible way . . . but if the thing be actually tried with a child, the result would be his apprehension of the figure five, the figure six underneath and a line between them; simply this, and nothing more. The child lives in a world of sense, and this is the way his immediate senses would present it."

From the critic's view of arithmetic and methods of teaching it, this inference is, no doubt, perfectly valid. From the handling of qualitative unities which measure no quantity, from an arithmetic which recognizes no number, from a method of teaching which uses no idea of measurement and presents nothing but sense-facts to a child forever confined to a "world of sense," there cannot arise a true idea of number which is not a sense-fact at all, but a purely mental product, a proof in fact that the child is emerging from the mere "world of sense" into that world of thought, of self-activity and self-control, from which he reacts upon the sense-world and makes it subservient to his purposes. With no true idea of number in his mind, what are number-names and number-symbols to the child? They are not even "empty abstractions"; for these stand some chance of a future filling. They embody no idea, they symbolize no process of thought. When, therefore, five, or six, or five-sixths is presented to the child he attends to it as a mere sense-fact; it is to his "immediate senses" a certain qualitative thing—this, but nothing more.

But far different are the results under the psychological method which the Report recommends—arithmetic based on number and quantity, and a method based on the normal action of the mind in dealing with quantity, in making definite a vague whole, by means of quantitative units themselves quantitatively defined. In this psychological method, there is no beginning with pure abstractions of number and quantity. It is not forgotten that "the child lives in a world of sense," and so there is a proper presentation of sense-material to call into play the fundamental activity of *mind* which leads gradually but surely to clear ideas of number. But equally it is not forgotten that the child is not to be fettered and confined in a prison house of sense; that he and all the race "live" in a world of sense only by bringing it into subjection, and that the art of measuring, that is the arithmetic of number and quantity, is the instrument through which this subjection is achieved.

This psychological method recommended by the Report is a method which stimulates, guides, and strengthens the normal action of the mind, and in good time gives the child the power "to think five-sixths," and to think it as the Report says he thinks it, as denoting exactly measured quantity; a conception full of meaning, and not a barren and useless sense-fact—"five over six with a line between them"—the sole product of the inane method which the critic advocates. The method of the Report is based on the fact that *number* and numerical processes are the product of the primary mental functions (analysis, synthesis) working not upon quality, but upon quantity. When the method is rationally carried out, every step in primary number work is toward the right idea of number as denoting measured quantity, and therefore toward a clear conception of the fraction-number as denoting *definitely measured* quantity. For the number-process in the mind is, from first to last, a "fraction" process; it is a working with a unity of parts, and parts constituting a whole, a unity. When, for example, a child counts his six apples by twos, he notes a first two, a second two, a third two—*three* twos, the unity or whole; can he help feeling that one of these parts is one out of the three, and two, two out of the three? When he is interested in getting a definite idea of a six-unit quantity, say a length of six feet, what is the mental movement? By means of a foot measure, he separates the quantity into parts (analysis), and now has a whole of parts; he then counts the parts (rational synthesis), and now has a number of units making up the exactly defined unity or whole. The vague *how much* has become the definite *so much.*

Now, in this process, he begins with a whole of quantity and is continuously working from and within this whole. There is therefore, in counting, a sort of double movement in the mind—a looking forward and a looking backward. When the child reaches, *e. g.*, the fourth unit in the series measuring the whole, he is aware of the three preceding units and of the others yet to come. He recognizes the six equal parts of a unified whole, and when he counts the series he cannot help seeing that one unit is one out of six, two are two out of six . . . and five, five out of six. What is this but the beginning of a *true* conception of "five-sixths"; a "thinking of five and a thinking of six, and then of the five as related to the six"? At first indeed there is, as in every form of mental growth, a mere feeling, a vague awareness of the "five as modified by the six," but at last and surely a conscious recognition of the relation.

Such results are clearly impossible in an arithmetic of quality and fixed qualitative units, because this is a continual thwarting of the fundamental psychical activity which alone can produce them.

It may now be reasonably expected that Superintendent Burk, having argued for an arithmetic without quantity, will plead for a geometry without space.

J. A. McLellan
Principal of the Ontario School of Pedagogy,
Toronto, Canada

FALL MEETING OF THE MICHIGAN SCHOOLMASTERS' CLUB

The twenty-fifth meeting of the Michigan Schoolmasters' Club was held in the Recital Hall of the University School of Music, at Ann Arbor, on Friday and Saturday, November 29 and 30. The programme included general sessions of the club, Friday morning, Friday evening, and Saturday morning and afternoon, with departmental conferences for English, mathematics, and physics, Friday afternoon. There were comparatively few present at the opening, as was to be expected of a session immediately following Thanksgiving Day; but the total attendance at the conferences was more than two hundred, and the sessions of Saturday drew a still larger number. Of States beyond Michigan, Illinois was, as usual, represented by a strong delegation. On Friday there was also a special meeting of the North Central Association of Colleges and Schools, which brought to the later sessions of the club a larger number of educational men from more remote States than had ever been present before.

The club first listened to supplementary reports of two committees, which had given full reports of the classical conference in March.[1] Professor J. H. Drake, chairman of the committee on illustrative material for classical teaching, called attention to a reduction in the price of von Launitz's *Wandtafeln*, and gave particulars regarding importation. He presented also a prospectus of a comprehensive and most promising series of reproductions of objects of ancient art and life, projected by Professor A. C. Frothingham, Jr., of Princeton University; he recommended the proposed albums as far superior for educational purposes to ordinary photographs, and to all the collections of illustrations now available. Mr. C. L. Meader, chairman of the committee on the High-school Classical Library, reported that in June an edition of 3000 copies of the "list of books recommended for a High-school Classical Library" had been published, of which less than 450 copies were still on hand; and that, in response to a pronounced demand, inasmuch as the edition was so nearly exhausted, the committee now proposed to select from the 480 titles originally given a list of the hundred classical books recommended as most necessary for a school library. Announcement was made that this smaller list would be published in the *School Review.*

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[1] See the *School Review* for June, 1895, pp. 386–96.

The deliberations of the conferences were marked by deep interest. The English conference listened to two papers, one by Miss Bancroft of Albion College, on "English literature as an aid to composition" the other by Miss Clarke of the Kalamazoo High School, on "Methods of teaching English literature." In the discussion that followed Professor Lemmon of the University of Michigan and Superintendent Nightingale of Chicago took strong ground against the excessive linguistic analysis of literary masterpieces, to the exclusion of higher interpretation and the appreciative study of them as literature. Professor Hinsdale emphasized the importance of the training which may be acquired by reproducing the ideas of an author in one's own language. The mathematical conference gave its attention to topics connected with the teaching of algebra—the amount that should be taught in secondary schools, the order of subjects, and factoring. The conference in physics was made especially interesting by the exhibition of new apparatus. One piece of apparatus, offered by Mr. H. M. Randall of the Saginaw High School, was pronounced superior to anything of the kind previously known; it is a very simple but accurate device for verifying the laws of falling bodies.

At the evening session of Friday the club listened to a paper by President Thwing of the Western Reserve University on "The best life," read by President Angell. Professor C. H. Thurber then spoke on "Essentials and non-essentials from a pedagogical standpoint." His remarks were in substance as follows:

What a pedagogical standpoint means is not any too clearly defined. Education can be advanced in two general lines: One is that of organization, which has to deal with the external relations of education; and the other the psycho-biological, which has to deal with the internal phenomena. With regard to both these standpoints, and not forgetting the great variety of educational freaks which masquerade in the garb of pedagogy, there are three essentials on which all, perhaps, can substantially agree.

First. The teacher should thoroughly understand the scope and function of the school in which he is placed, and its relation to the other parts of the educational system. He should know enough of the organization of schools to understand exactly the function in the educational economy discharged by the particular school with which he is working.

Second. He should know enough of the processes of the mind on its way to knowledge, so that he can thoroughly put himself in the student's place. Without some study of educational psychology, the teacher is the victim of imperfect recollections of his own experiences. A study of the steps through which the mind gains knowledge enables him always to keep in sympathy with the pupil in the difficulties the latter encounters. He is thus enabled to adapt his instruction to the capacity of the instructed.

Third. He should have a clear ideal. He should have a conception of the final product of the school, and a clear notion of the particular contribution toward that product to be made by him in his own instruction. As a teacher of Latin, he should know for what results Latin is taught. In any factory, before the raw material is touched, the workmen know exactly what the final product is to be; but in dealing with raw material that consists of delicate, sensitive, little souls, it is too often thought sufficient to rely upon the cut-and-dried process, with results disastrous in both their immediate and their remote influences.

The subject for Saturday morning was, "The preparation of teachers for the secondary schools." President Slocum of Kalamazoo College laid emphasis upon the personal character of the teacher, and paid a fitting tribute to the shaping influence of President Martin B. Anderson of the University of Rochester upon the generations of students that came under his instruction. Principal Boone of the Michigan State Normal School grouped the requirements of teachers for secondary schools under four heads: 1. The largest scholarship available under the conditions of the system; 2. An acquaintance with the high school, from the point of view of the teacher, and as an organic part of the school system; and some acquaintance, at least, with the elementary schools; 3. The fullest and clearest professional knowledge and practice (skill) belonging to that grade of teaching; 4. The professional teaching spirit. Professor Hinsdale urged the importance of sound pedagogical method, not as taking the place of the largest possible scholarship, but as making this available and effective; he deplored the evil effects of excessive specialization on the part of those who teach very young students.

Superintendent Nightingale discussed the preparation of teachers from the point of view of the high school. He dwelt at some length upon the striking disparity in the number of men and of women filling high school positions, presenting strong arguments in favor of an equality in this regard, and the payment of the same salary for the same work, when equally well done; the employment of half-qualified women teachers, because they were cheap, has lowered the standard of professional qualifications for secondary teaching. Passing to the other phase of his subject, he took high ground for the scholarly equipment of secondary teachers, and said:

> I desire to make a plea for broad culture, symmetrical training, an all-around education in language, mathematics, science, and history, and for a persistent and never-ceasing study of English classics and English literature. The education of a teacher should be first general, then special. The very minimum of preparation should be a college education—an education general in character, removed at least four years from high-school training; and where circumstances may permit, I would add one year of resident graduate work along specific lines, and two years of study and travel abroad. This education, however, to the real student, to the scholarly scholar, will be but a beginning of those intellectual possessions which shall be easily and delightfully acquired as the years unfold, but one who, having secured the meager discipline of a high school, attempts to acquire the knowledge and power sufficient for a secondary teacher, through university extension circles, Chautauqua courses, summer schools, normal schools, and private study, will ignominiously fail to secure that kind of scholarship which the needs of our secondary schools demand. The real teacher will always be a student. Intellectual acquirements, however, are not the only essential elements of a teacher's equipment. To be a guide, a trainer, a safe counselor of youth, one must be a paragon of patience, kindness, love. The dull, the indolent, and the mischievous must always receive due consideration. Personal appearance also bears no insignificant relation to a well-appointed teacher. Tidiness of person, neatness of dress, grace of posture, and civility of manner should mark the true teacher, and among other acquirements, the real teacher needs a gentle, well-trained, cultivated, mellow, musical voice. The reading of the English classics in our high schools is something abominable, and calls for radical reforms.

The speaker abjured intensive specialization until broad foundations have been laid, and a good general education secured, with language as the center around which all studies correlate.

Superintendent Nightingale was followed by Director George N. Carman of the Lewis Institute, Chicago, who spoke of the important place that experience, particularly experience under careful and sympathetic criticism, should have in the preparation of a teacher. The discussion was brought to an end with remarks by Professor Carhart of the University of Michigan. He gave voice to the conviction, which has been gaining rapidly at the university during the past few years, that no one can be considered as having adequate professional equipment for secondary teaching who has not had at least a year of graduate work, with undergraduate training as a foundation, in the subjects which he purposes to teach.

Saturday afternoon was devoted to the question of the relation between the university and the secondary schools. Professor A. H. Pattengell of the University of Michigan pointed out certain defects in the system of admission to the university by diploma, or certificate, mainly due to the fact that too many schools had sought and gained the privilege of recommendation. The number of diploma schools on the accredited list of the University of Michigan is now 152; it is impossible to inspect so large a number, under present arrangements, without taking altogether too much of the time of members of the faculty. Further, so few students, relatively, now enter on examination that the examination system tends to be kept up with less strictness and care than formerly. The speaker was inclined to recommend either the appointment of two special inspectors, who, under direction of the faculty, should do nothing else but visit schools, or the preparation of examination papers at the university which should be sent out to the schools.

Principal French of the Hyde Park High School, Chicago, made an earnest plea for the maintenance of an intimate relation between school and college. His argument may be traced in the following outline:

Any system of college requirements should be so planned and administered as to accomplish two things:

1. The acquisition of a body of well-prepared students; 2. The acquisition of the power to exert a vigorous influence upon the life of the lower schools which shall exalt their ideals and motives, render their work more efficient, and at the same time foster the college spirit.

It is desirable that as large a number of our young men and women as possible should take advantage of the opportunities which the college affords. In order to accomplish this, the colleges and universities must impress themselves profoundly upon the lower schools. The young people must be made to know not only that there are higher institutions than the common schools, but also that these institutions are in sympathy with them in their aspirations after a broader and deeper intellectual life, and that they are ready and anxious to help them.

The certificate system offers peculiar advantages to this end:

1. It tends to unite the college and secondary school in a more or less harmonious relationship; 2. It tends to increase the number of those who enter college; 3. It places the emphasis more upon the daily work of the pupils, and less upon a comparatively isolated function of school life; 4. It largely eliminates the evil of cramming; 5. It affords the colleges a better opportunity to keep a check upon the lower schools; 6. It gives the lower schools a better opportunity to keep in touch with the colleges.

The certificate system may lead to certain evils:

1. It may have a tendency to lead both the colleges and secondary schools to sacrifice scholarship to the pride of numbers; 2. Principals may succumb to pressure and issue certificates to unworthy students; 3. Poor work in a single branch or department may cause a school to be unjustly condemned.

The ideal system of inspection is to have some progressive and sympathetic professor visit the high school as inspected, making teachers and students alike feel that he comes as a friend as well as a critic. Reports should be sent back to the schools, regarding the work of their students, at least for the first year. Probably two kinds of certificates might advantageously be used, one absolute, for the very best, the other conditional.

Principal Greeson of the Grand Rapids High School spoke with much force of the uplifting influence of the certificate system upon the secondary schools. Finally President Angell, being called upon, closed the discussion with some remarks regarding the purpose and development of the diploma system, which are given in full:

The discussion has been devoted largely to the details of our diploma system. Before we adjourn, I should like to call attention briefly to the history of the introduction of that system which has been so widely imitated in the West, and sometimes without the safeguards we have thrown around it here. It was suggested by the German system of receiving students into the universities from the gymnasia.

The university professors who were interested in the subject observed that while there was an organic connection between the primary school, the grammar school, and the high school, there was no such connection between the high school and the university. They thought that the German system might, with certain modifications, be employed to close that gap. Doubtless they hoped, by introducing it, to benefit the university, and the results have fully justified their expectation. But what I wish particularly to emphasize is, that the broad-minded men then in the university faculty wished above all to confer a blessing on the state by securing unity and completeness in its educational work and life. They aimed to make clear and open the path for every child in the State to advance, with the fewest possible obstacles, from the lowest school up to and through the university, and to kindle in all the high schools a desire for the higher education.

In those early years I used to visit the schools frequently as one of the committee of inspection. I remember that the visit of the committee was made a marked educational occasion. Often we were invited to make addresses to the citizens. The most prominent men and women of the city were invited to meet us. We found opportunities to talk with the pupils about college studies and life. In many a student—probably in some of you here present to-day, then boys or girls in school—was first born, on some such occasion, the illuminating and inspiring thought that perhaps a college education was within their reach. All over the State a new enthusiasm in high-school work was awakened. The tax-payers were filled with new pride in their schools and moved to a more generous support of them. No one who can remember the development of education in Michigan for twenty-five years can doubt that the establishment of this new relation between the university and the high schools was epoch-making. I have spoken these few words because I wished that our younger friends, who are not familiar with what occurred so long ago, may have some proper conception of the great ideas which inspired this movement.

It has grown upon our hands until there are undeniably some difficulties in working the system in our relation to so many schools. But these are difficulties which chiefly concern the university, and it is for the university to find the remedy as best it can. You can be sure that the subject is not overlooked by us.

As to one remedy suggested to-day, that an officer should be appointed to give his whole time to conducting the examination of schools, and to do the whole of that work, I wish to say that there is one serious objection to that plan. It would deprive our professors of the benefit they receive from inspecting the schools. College teachers, in their zeal for raising the standard of work in their respective departments, are in danger of forgetting the obstacles teachers encounter in lifting the grade of work in the schools. But by actually going into the schools, by conferring with the teachers and the school board, they learn what is possible, and what is impossible. So the university is saved from the mistake of making unreasonable demands on the schools.

The accomplished principal of the Harvard School of Chicago has spoken of the danger of the principals giving certificates to scholars who do not deserve them, for fear of giving offense to some of the influential parents. I confess I used to have that apprehension. But I am glad to bear testimony to the fact that, in all these years, I have seen few, if any, such cases. I am glad to express my gratitude to these principals and superintendents for the pluck they have shown. I am sure they have sometimes refused certificates to pupils who, if they had come to be examined, would have secured admission.

There are other points which I would willingly discuss, did time permit. But I rose merely to indicate what were the noble and lofty purposes which led the university authorities, in 1870, to introduce the diploma system. So long as you teachers of the high schools testify, as you have done to-day, that you and your pupils are helped, as we hoped you would be; so long, I believe, the university will continue the system in the most efficient manner possible to it with the means at its command.

FRANCIS W. KELSEY

UNIVERSITY OF MICHIGAN,
ANN ARBOR, MICH.

VII

REVIEWS

Statistics and sociology—By Richmond Mayo-Smith, Ph. D., Professor of Political Economy and Social Science in Columbia College. New York and London: Columbia University Press [Macmillan & Co]., 1895. 399 p. $3.00.

The subject of statistics is rapidly gaining recognition in American colleges. In Great Britain, from which, until recently, our educational models have been mainly derived, it has received scant attention at the hands of the universities. As statistics, in the modern sense of the term, originated in that island over two centuries ago, and under its original name of political arithmetic obtained there a considerable development, one is somewhat surprised that the land of its birth and baptism has granted it so little direct academic recognition. It was not until early in the present century that it began to gain an entrance to the universities—not, however, to those of Great Britain but to those of the continent of Europe and especially to the German universities; where, after a prolonged and bitter controversy, it gradually displaced the earlier statistics of the school of Achenwall, which was in substance a descriptive political science, and even usurped its name. The discipline, thus, in which courses of instruction have been steadily increasing in number and extending in scope in the leading universities of the United States during the last ten years, has entered them not from England, and not under its original name of political arithmetic, but from Germany, and as statistics.

The present work, while using the most important conclusions of the English statisticians, especially in the field of vital statistics, and while thoroughly independent in plan and treatment, shows the influence of German writers perhaps more strongly than those of any other nationality. At the same time it embodies the conclusions of a pioneer in the field, who has been lecturing on statistics for a dozen years at Columbia College, and who, by his teaching and influence, has contributed to arouse an enlightened interest in the subject. This work will extend and deepen that interest among students of affairs; and by providing a text-book, which might be used for a class either with or without supplementary lectures, it should make the introduction of the subject into the curricula of other institutions possible. The only previous work in English suitable for such a purpose—*Statistics and economics*, by the same author—has been for some time out of print. This volume contains the only full statement in the English language of the general principles and conclusions of statistics, and it is a matter for congratulation that an American scholar should be the first to offer such a work to the public.

Statistics and sociology may be regarded as a fresh and full treatment of the field covered in outline in the first part (pp. 15–78) of *Statistics and economics* and there called "The statistics of population"; but in its chapters on crime and on suicide it extends into the field of moral statistics, which is thus merged, and wisely as it seems, in the general subject of population. We are promised (p. vii.) a second volume to be called *Statistics and economics*, which will presumably cover the remainder of the field surveyed in the earlier pamphlet.

Statistics is defined as "the observation of phenomena which can be counted or expressed in figures" (p. 9), and just before this statement we are told that "the science of statistics . . . gives us the quantitative measurement of social phenomena" (p. 8). If the word phenomena in the definition be limited to social phenomena, as is apparently warranted by the author's general use of the term, and by his slight reference to the application of statistics outside of the field of the social sciences, the definition is substantially identical with that of Professor Levasseur, "Statistics is the numerical study of social phenomena."

Professor Mayo-Smith waives the question whether statistics is a science or only a scientific method (p. 17), but in conformity with the opinion briefly set forth in his earlier work (p. 112–119) he commits himself to the view that it is a science, by calling the entire treatise of which this is the first part, *The science of statistics.*

Sociology is defined as the science which treats of social organization or of the laws which underlie the relations of men in society (p. 1). This definition of sociology, in common with most others, by repeating in the predicate the word social or society apparently lays itself open to the objection that it is tautological.

Perhaps the most important general change of plan between the earlier and the later works is the abandonment of the distinction, made by many other authorities, and adopted in the earlier monograph, between social conditions at a determinate instant and social change in time. The distinction may be artificial and unreal, but it corresponds closely to the difference between the two main sources of information upon which social statistics must rely, viz., censuses and registration records; and in my own pedagogical experience in this field it has been found, on the whole, to justify itself. One would have been glad, therefore, for a statement of the reasons which have led a teacher of such experience to surrender this division. Is it not as justifiable and serviceable as the generally accepted division of geology into statical geology and dynamical geology?

The general aim of the work is apparently to present an orderly and reasoned survey of the social condition of the population of western Europe and the United States so far as that condition finds expression in facts which have been statistically measured. This limitation of the theme to the most important exponents of modern civilization is nowhere expressly stated, but it must be understood as an implicit qualification of several statements—*e. g.*, that an excess of females is typical of old countries (p. 40), that education can scarcely fail to be always an index of the social condition of a people (p. 209)—and is doubtless justified by the scanty and questionable statistical data obtainable concerning countries like India, Japan, and Egypt. The scope of the work in time is also limited to about the last score of years.

Within the field thus defined the subject is treated in three introductory chapters and in four books, each shorter than the last, entitled Demographic, Social, Ethnographic, and Environment. Demographic statistics include what are frequently called vital statistics or statistics of births, marriages, sickness, and deaths, along with an introductory consideration of census data upon sex, age, and conjugal condition. Social statistics treat mainly of the dependent, defective, and delinquent classes, while the book on ethnographic statistics is largely concerned with migrations, since race distinctions prove to be not sufficiently definite for the requirements of careful statistical work. The environment is either physical, under which the density and the distribution of population are considered, or social. As the statistics of the United States are inferior in scope and accuracy to those of many European states, one is not surprised to find that no emphasis is laid upon the social conditions of this country, and that Massachusetts is the only State mentioned in the geographical index.

The foreign works with which one is tempted to compare *Statistics and sociology* are Dr. Mayr's *Die Gesetzmässigkeit im Gesellschaftsleben* (1877), Professor Levasseur's *La Population Française* (1889–92), and the earlier work of Wappaeus, *Allgemeine Bevölkerungsstatistik* (1859–61). It differs from the first and second and agrees with the third in three important respects; the absence of any extended preliminary discussion of statistical methods; the avoidance of emphasis on the statistics of one particular country, and the disregard of the distinction between *État* or *Stand* and *Mouvement* or *Bewegung*. It has a great advantage over the German works in presenting the conditions of the various countries as they were about 1890, while the facts, though not the reasoning, of the earlier writers have lost much of their interest with the lapse of years.

Suggestive reflections upon the divergent treatment of the same subject are aroused by the publication, within a year of each other, of two works bearing the same title, *Statistik und Gesellschaftslehre*, 1894, *Statistics and sociology*, 1895. They are by two of the best-known statisticians of the world; each is the first volume of an extended treatise on statistics; the latter work recognizes the former as "the latest and most complete treatise on statistics that we possess" (p. 17, note), and yet the topics discussed in the two are almost entirely different. Dr. Mayr reviews the fundamental ideas (*Grundlagen*) of the science, its methods and technique, the administration of statistical offices, and sketches the history of statistics, while Professor Mayo-Smith is mainly concerned with its results and a criticism of them. In following this method he has presented the public both a readable book—no common merit in the literature of statistics—and a trustworthy manual.

W. F. WILLCOX

CORNELL UNIVERSITY

A practical German grammar—By CALVIN THOMAS, Professor of Germanic Languages and Literatures in the University of Michigan. New York: Henry Holt & Co., 1895. 411 p. $1.12.

There is and probably always will be in this country a large number of students who learn to read German in the college or in the upper classes of the preparatory schools, after they have studied other languages for some years, and know pretty well what it is to handle a reference grammar. Such students are concerned chiefly with the problem of finding out how the Germans say things which the students already know how to say in other languages. They know the terminology of the grammar, and the classification of expression-formulas which is the substance of grammar-study. They want simply a presentation of the facts of German grammar in such perspective as their relative importance for such students demands; the main rules, and the minor points that experience shows are most troublesome, in large type and clearly stated; the other minor points and lists of forms, both regular and exceptional, full and accurate, but unobtrusive. Such students are competent to use what facts they need and leave the rest; any attempt to prescribe the order or method of using the facts is out of place; with very little guidance from a competent teacher, they need no other grammar; abundant reading of texts and some little composition material from any of a dozen available books, or from the teacher's own note-book, soon bring them to the point where the German sentence is no longer a mystery, and they only need to add to their knowledge the facts of vocabulary and idiom as they meet them in reading.

The second part of Professor Thomas's grammar is the best thing thus far available for such students. It meets the above requirements as to contents and arrangement. The author has used very judiciously the work of his predecessors, and all his selections, as well as his own statements, make for clearness, which is the predominant merit of the book. Particular instances are the chapter on word-order, the rules for gender, the treatment of the modal auxiliaries, and the appendices (orthography and English-German cognates). While the book is a grammar of late modern literary German, the fact is never lost sight of that there have been other periods, and still are other dialects, which may often throw lights on the facts to be recorded, especially in the many cases of divided usage which are found in German. Moreover, the book is up to date. The chapter on pronunciation is written with due regard to the existence of a modern science of phonetics; it is made clear that there are various and varying pronunciations current in Germany; it is recognized that the great majority of Germans pronounce *r* with the uvula, but that the average American, without special training of some muscles that he rarely uses in speaking, might as well try to pronounce it with his back hair. We are also left free to believe that the German script is rapidly becoming a matter of history, and given to understand that the formal third plural for the pronoun of address is used in speaking to all adults except *very* intimate friends. These are a few of the many points in which the book marks an advance. It is a pity that such a book as this grammar might be, will not sell so well as the book as it is. If the matter in Part I which is referred back to in Part II were incorporated in Part II in the proper places, the reference grammar would be more satisfactory, but then there would be no *raison d'être* for the rest of Part I, which will nevertheless probably sell more copies than Part II. The matter in Part I which belongs to a reference grammar shares the merits of Part II; the rest is simply another of the legion of books in which a teacher puts in print the details of the method which he uses, or thinks should be used, in the hope that others can use it in the same way he does. Every competent teacher has a shelf-full of such books, most of them distinctly more valuable for material than for method. The most of them are a mere list of the hobbies of their authors. The best of them can do no more for a really competent teacher than save him some trouble in providing material for his class. To follow any method or text-book slavishly is a sure sign of an incompetent teacher. Now the matter in Part I referred to is open to the very serious criticism that it can be so followed, and followed by those who ride the hobby which surely must be as much of a nightmare to Professor Thomas as to anyone—the "natural method." One could easily conclude from some things in the book that it is expected to do what Professor Thomas has said "cannot be done, never has been done, and never will be done, by the natural method or any other method, and anyone who professes to do it may safely be set down as a quack." One reviewer has already said that this matter is sufficient to allow the use of the grammar without a reading-book! Any teacher who is competent to use a method such as seems indicated in Part I has that sort of stuff by the yard as a result of his own experience, and therefore better for his use than anything he can get ready-made from a book. Fortunately, however, the book is well indexed, and whoever wishes to ignore all but the reference grammar can do so without any great inconvenience.

E. H. BABBITT

COLUMBIA COLLEGE

Vaile's Vertical-writing copy-books: Nos. 1–5, forming a school course. Philadelphia: E. H. Butler & Co., 1895. 96 cents a dozen.

As copy-books go, this is an excellent series. At first glance, the writing provided for copies strikes one as being ugly and is therefore disappointing; but a careful examiner soon discovers that the apparent ugliness is due to certain peculiarities, such as the omission of unnecessary initial and finishing strokes and a closer approximation in size between capitals and small letters than he has been accustomed to; both of which, since they diminish the difficulty of writing while they increase legibility, are really merits. Moreover, when he reaches a book in which the copies consist of solid blocks of matter instead of single lines, he looks for the ugliness that troubled him at the outset, and lo! it is not there.

The chief merits of the books are: (1) that they present a very clear and compact style of penmanship; (2) that they are well graded as regards both the sizes of the letters and the subject-matter of the copies; (3) that in the higher numbers the copies are instructive, so that the work done by the scholar is something more than mere writing; (4) that the books are so shaped, measuring but six inches from top to bottom, that as the writing progresses toward the foot of the page the book may be pushed further up on the desk; (5) that the lines to be written are short, never reaching five inches, so that lateral movement of the book, to prevent straining of the eyes, is unnecessary.

Against the merits must be placed a few defects. One of these is the use for copies in the lower books of single letters and of meaningless combinations of letters. Another is a lack of sufficient practice in the same books, upon the arabic figures. A third is a want of sufficient contrast in some places between the solid lines provided for the writing and the dotted ones between. The letters *x* and *z*, in both the large and the small form, are decidedly inferior to the other letters, and the engraving generally is not up to the best standards in smoothness and accuracy. The last fact is defended by the author in his suggestions; but it seems to us that his defense is not valid. For, whatever standard we set before children, they are sure to fall below it, and it is therefore of great importance that the copies, while demanding nothing impracticable, should be as nearly perfect as possible.

The little treatise on Vertical Writing which accompanies the books, and is uniform with them in size and appearance, is remarkably clear in statement, temperate in tone, and fair in argument. It ought to be read by every teacher who desires light on the subject with which it deals.

EDWARD G. WARD

ASSOCIATE SUPERINTENDENT OF PUBLIC INSTRUCTION,
BROOKLYN, N. Y.

NOTES ON NEW BOOKS

Mention of books in this place does not preclude extended critical notice hereafter

One of the very best manuals of physical science is Daniell's *Text-book of the principles of physics*, which now appears in a third edition, testifying to its popularity and usefulness (New York: Macmillan & Co., 1895. 782 p. $4.00).——A small but complete and well-classified *Introduction to the study of zoology* is that by B. Lindsay of Girton College, Cambridge (New York: Macmillan & Co., 1895. 353 p. $1.60).——In the excellent *Century science series*, edited by Sir Henry Roscoe, the two latest volumes are on Liebig and the Herschels. Both are well and clearly written. Other volumes on Faraday, Clerk Maxwell, Lyell, Pasteur, Darwin, and Helmholtz are promised (New York: Macmillan & Co., 1895. $1.25 each).——The appearance of the plays of *Hamlet* and *King Henry VIII* in the beautiful Temple Shakespeare affords another opportunity of calling attention to that attractive edition (New York: Macmillan & Co., 1895. 45 cents each).——*Latin literature* is the title of a capital survey of the literature of the Romans, from Nævius and Ennius to

Claudian. The author is J. W. Mackail, sometime Fellow of Balliol College, Oxford (New York: Charles Scribner's Sons, 1895. 286 p. $1.25).——An elaborate criticism of Tennyson, Browning, and Matthew Arnold, and a comparison of their merits, are offered by Professor Hugh Walker of St. David's College, Lampeter, in his work entitled *The greater Victorian poets*. The book was printed at the Aberdeen University Press, and is not well made (New York: Macmillan & Co., 1895. 332 p. $2.50).——A readable sketch of modern German literature is that by Benjamin W. Wells (Boston: Roberts Brothers, 1895. 406 p. $1.50).——Beautiful specimens of book-making and the best of educational material are found combined in Baldwin's *Specimens of prose description* and Brewster's *Specimens of narration*. Both are products and instruments of the new study of rhetoric and composition that is so rapidly spreading through the schools and colleges (New York: Henry Holt & Co., 1895. 50 cents each).——Other reading matter of a high order of excellence, very attractively presented, but intended for much younger pupils, is contained in the three latest volumes of Eclectic School Readings—Edward Eggleston's *Stories of great Americans*, Baldwin's *Fairy stories and fables*, and the same writer's *Old Greek stories* (New York: American Book Co., 1895. 50 cents each).——No more beautifully made and generally attractive text-book has recently appeared than Gleason and Atherton's *First Greek book*, with an introduction by William C. Collar (New York: American Book Co., 1895. 285 p. $1.00).——The second volume of *Darwin and after Darwin*, by the lamented Romanes, has just been issued. It deals chiefly with questions of heredity (Chicago: Open Court Publishing Co., 1895. 344 p. $1.50).——In his *Advanced history of England* Professor Cyril Ransome has made a book of an extremely useful type. General readers will find it admirable for consultation and reference, while teachers and advanced students can use it as a text-book (New York: Macmillan & Co., 1895. 1069 p. $2.25).——The third issue in the Columbia University Biological Series is Dr. Dean's carefully worked out book on *Fishes, living and fossil*. It is beautifully illustrated (New York: Macmillan & Co., 1895. 300 p. $2.50).

VIII

EDITORIAL

The ninth annual meeting of the important body of secondary-school and college teachers known as the Association of Colleges and Preparatory Schools of the Middle States and Maryland, was held at Lafayette College, Easton, Pa., on November 29 and 30. The attendance was very large, although not as thoroughly representative as it should have been. Many of the New York colleges and academies were not represented at all. Cornell sent but a single professor; Princeton and Johns Hopkins sent none. Pennsylvania, on the other hand, and particularly Philadelphia, sent very large delegations. It is a proof of the new educational life that is stirring in the Quaker City that the Philadelphia Girls' High and Normal Schools alone sent sixty teachers to the meeting.

The programme wisely confined each of the three sessions to a single topic, and most of the papers were of an unusual order of excellence. The *Sprachmeister* and their opponents debated the aim and method of college work in French and German, and President De Garmo and Dr. Frank M. McMurry expounded the significance of the principles and spirit of Herbartianism for secondary and higher education. Professor Witmer of the University of Pennsylvania made a fierce onslaught on Herbart's psychology, and called out the sharpest and most helpful debate of the meeting. The chief participants, besides President De Garmo, Dr. McMurry, and Professor Witmer, were President Hervey of the Teachers College and Mr. C. H. Henderson of Philadelphia.

Although the Saturday morning discussion was on the topic, "Are we sacrificing the humanistic to the linguistic in the teaching of the ancient classics?" the question remained unanswered, as Principal Green of the New Jersey Normal School pointed out. Professor Bennett of Cornell illustrated in an interesting way how the linguistic implies and leads up to the humanistic, but most of the other speeches wandered off to the general question of classical teaching and were, in so far, disappointing.

The general sentiment of the Association is decidedly liberal and progressive. Its good influences throughout the territory that it represents are very apparent, and in time a marked elevation in the secondary-school and college work in the Middle States will result from its activity.

The decision of the executive committee of the National Educational Association to hold the next meeting at Buffalo, N. Y., on July 7–11, 1896, is undoubtedly a wise one. It is not generally known how many and delicate are the negotiations that must be carried on before a decision can be reached that insures a successful meeting. Not only must the railroad rates be assured, but the method of administering the privileges granted, so as to protect the railroads from imposition and the Association from loss, must be carefully looked after. Because the officers of the N. E. A. assume the responsibility that belongs to them and co-operate cordially and effectively with the railroads to prevent abuses, no organization in the country stands so well with the transportation companies as the National Educational Association, and no other obtains so prompt and sympathetic a hearing.

The calm judgment of the board of directors, and of the other leaders in the work of the Association, did not sustain the first choice of those who were present at Denver to vote upon the matter of a place of meeting in 1896. It was pointed out that while California would undoubtedly make a most imposing and generous demonstration were the meeting held at Los Angeles, yet the officers and managers could not hope to secure an attendance of more than one thousand or fifteen hundred from east of the Rocky Mountains, the very next year after the great outpouring at Denver. This alone was a conclusive objection to holding the meeting at Los Angeles this year. The directors were overwhelmingly of this opinion. Duluth, as the second choice, was next considered. It had many and strong attractions, but was finally passed over on two grounds: first, because the Mississippi Valley teachers preferred an eastern point, and, secondly, because President Dougherty, after careful inspection, was of opinion that Duluth could not provide sufficient accommodations for such a great assemblage as it is hoped to bring together in 1896. Asbury Park, as the third choice, was likewise passed over for the present, on the entirely good ground that having met there so recently as 1894, the local attractions of some other eastern point would probably bring a larger attendance.

Invitations of the most cordial and pressing character were received from Boston and from Buffalo. President Eliot, Secretary Hill, Superintendent Seaver, President Parmenter of the American Institute of Instruction, and other genuine leaders of New England's educational forces, were most enthusiastic. But the railroads were obdurate. They held that the usual concessions granted to the N. E. A. would, if made for a meeting at Boston, disarrange the entire summer tourists' business of New England. The selection of Boston, despite the strong preference expressed for it by the teachers of the West, was therefore impossible.

Buffalo, however, will be found to be a most attractive and accessible point, the more the facts regarding it are studied. The city itself is one of the most attractive in the country. It has excellent hotels and several large halls for meeting purposes. Niagara Falls is less than thirty minutes distant, while the beautiful lake country of Central New York, the rapids of the St. Lawrence, and the famous Adirondack resorts are not far away. Reduced rates will be given to all the attractive points on the New England and New Jersey coast. The educational development of Buffalo, too, is just now at an interesting stage. The first city in the country to have a superintendent of schools, to this day it has no board of education; and the superintendent is chosen by popular vote. Superintendent Emerson, who stands for better teachers and more efficient schools, and for the elimination of party politics from the system, has just been re-elected by a majority of nearly fourteen thousand, and the city is committed to his enlightened and progressive policy. Dr. Frank M. McMurry is achieving a remarkable success with the newly-established School of Pedagogy of which he is the head, while the State Normal School is co-operating cordially. It is worth while for the teachers of the country to study this new movement at Buffalo, to talk to its leaders, and to give it the stimulus and inspiration of their presence and approval. On December 4 the Central Traffic Association voted the necessary rates, and early in January similar action will doubtless be taken by the Trunk Line Association. That the Association will meet at Buffalo may, therefore, be regarded as a settled fact. President Dougherty will be able to offer an unsurpassed programme, and the teachers of the country will cheerfully unite with him, Secretary Shepard, and Treasurer McNeill in putting the Buffalo meeting ahead of all of its predecessors.

The eminent statistician, Mons. E. Levasseur, has recently made to the International Institute of Statistics a report on the diffusion of elementary education which, in fullness and elaborateness, surpasses his earlier comparative studies of this very important development of the nineteenth century. Extending his investigations over all civilized countries of the globe, he finds that in all of them the promotion of elementary instruction has, in the course of the present century, gradually become the concern of the government. Among civilized countries Switzerland and the United States alone have no central administration of public instruction, leaving it to the care of the cantons and States. Many countries (France, Prussia, Austria, Hungary, Italy, Russia, Norway, Sweden, Denmark, Japan, most of the provinces of British North America and of Australasia) have a minister of public instruction; while West Australia, Nova Scotia, and New Brunswick have bureaus or superintendents of instruction. In Holland, Belgium, Spain, and Portugal the department of the interior has charge of education; in Great Britain the public schools are subject to inspection by the Education Department.

Compulsory and gratuitous elementary instruction has been totally or partially adopted in most civilized countries, especially in those under democratic forms of government, and great progress has been made in this respect in the last half century. Still, compulsory laws have often had little practical effect (as in Portugal, Spain, Greece, Turkey), but in some states instruction without compulsion is nevertheless very general: custom is stronger than law. The legal school age is usually from the sixth or seventh to the fourteenth year; in South European states from the sixth to the ninth. Gratuitous education does not always go hand in hand with compulsion; it is absolute only in Switzerland, Saxony, the Hanseatic cities, Norway, Scotland, Italy, Portugal, Roumania, Servia, Bulgaria, the United States, Canada, Mexico, and in most of the Central and

South American republics. Secularization of the common schools, toward which all civilized countries have been striving, has been carried farthest in France, Switzerland, and the United States, and among the German states in Saxony, Baden, and Bavaria; the movement has been least successful in Spain and Russia.

The modes of certificating and appointing teachers, as well as the salaries paid them, are of course subject to great variation in different countries; sixty-eight dollars, the annual pay of female teachers in the Swiss canton of Valais, seems to be the lowest on record; it is about equal to a high monthly average for female teachers in this country. The proportion of the sexes among elementary teachers has changed considerably within the last thirty or forty years; in most countries the two sexes are at present about evenly represented; countries where the number of women employed is small are usually backward in elementary education. In this country, where (as in Japan and some Australasian colonies) coeducation is also the prevailing system, the number of women teachers is exceptionally large. In France, mixed classes are looked upon as a make-shift, while among Germanic races they are not objected to in elementary schools.

M. Levasseur's comparative statistics cover many more points of interest, such as the construction and equipment of school buildings, the proportional increase in the number of schools, (by far the greatest in the United States), courses of study, preparation of teachers (Italy has, next to Germany, the largest number of normal schools), cost of public elementary education (Japan expends 50 million francs annually, France 173, Prussia 196, Russia 23; in 1880, the United States 767. Per head of population public elementary education costs France 4.5 francs; Prussia, 6.5; Russia, 0.25; the United States 12). He further discusses the various methods of taking the school census and of determining the proportion of pupils and of illiterates to the population. With rare exceptions, as many as 15 pupils to 100 inhabitants are found in Protestant countries only; in Greek Catholic countries, 5.5 is the highest ratio. In Saxony one illiterate is found among 10,000 conscripts; in Roumania 8900 out of 10,000 conscripts are illiterate. But we cannot dwell upon these details. All due allowance being made for the insufficiency of statistical methods in determining the results of education, the approximate relative advancement of elementary instruction in the civilized countries of the earth, as resulting from M. Levasseur's investigations, cannot be far from the truth. It is shown by the following order: First, the Scandinavian states, the German Empire, Switzerland; next, the colonists of European race, as at the Cape and in British Australasia; then, the United States; following these France, England, Belgium, Holland; lagging somewhat behind, Austria, Hungary, Italy, Spain; and last, the Slavonic East-European nations (Russia, Servia, etc.) and the Central and South American republics.

The Eastern Association of Physics Teachers is taking a lively interest in the adjustment of college entrance requirements in physics. A committee of five, from as many representative schools in the Association, has been appointed to prepare a report on the matter, which will embody such suggestions as they may deem wise to offer. In their effort to secure equitable requirements, and to devise a course of laboratory work which will meet with the approval of everyone concerned, this committee desires the hearty co-operation of all who are in any way interested in this most important work. Since the physical laboratory work in secondary schools is rapidly becoming of increasing importance, the importance of the contemplated revision is obvious. All teachers who are interested in the matter, and who wish to have their views considered, are invited to communicate with the secretary, A. B. Kimball, English High School, Worcester, Mass.

Dr. Harris's report on the correlation of studies received the high compliment of publication in full, in German translation, in *Pädagogisches Archiv* for November and December, 1895.

President Baker of the Department of Higher Education of the N. E. A. has designated the following committee of five to co-operate with a similar committee from the Department of Secondary Education in inquiring into and reporting upon the possibility of equalizing, and reducing to some kind of unity or standard, the requirements for admission to college:

Professor Nicholas Murray Butler of Columbia College, Professor Paul H. Hanus of Harvard University, Professor B. A. Hinsdale of the University of Michigan, Professor James E. Russell of the University of Colorado, Principal John T. Buchanan of the Kansas City (Mo.) High School. The five members of the Committee from the Department of Secondary Education are Principal W. H. Smiley of the Denver (Colo.) High School, Assistant Superintendent A. F. Nightingale of Chicago, Professor William Carey Jones of the University of California, Principal C. H. Thurber of the Morgan Park (Ill.) Academy, and Principal J. Remsen Bishop of the Walnut High School, Cincinnati. It is believed that each one of the ten members of the committee has had personal experience in secondary school work, and five of them are now college professors; four of the five holding chairs of education. This insures a more catholic and scientific consideration of the relations between secondary school and college than is possible by committees made up of college professors whose knowledge of the problem and interest in it are limited to a single department of study.

The programme that President Jones has prepared for the Jacksonville meeting of the Department of Superintendence remains substantially as outlined in this REVIEW two months ago. "Problems of detailed supervision" occupy the session of Tuesday morning, February 18, the chief speakers being Superintendent Babcock of Oil City, Pa.; Assistant Superintendent Delano of Chicago, and Superintendent Sutton of Houston, Texas. On Tuesday afternoon Professor Hinsdale of the University of Michigan and Superintendent Evans of Augusta, Ga., attack the rural school problem; on Wednesday morning Dr. Harris, Superintendent Gilbert of St. Paul, and President De Garmo have papers on "Coordination, correlation, concentration"; on Wednesday afternoon, Dr. E. E. White of Columbus, O., will present a paper on "Isolation and unification as bases of courses of study," to be followed by Dr. W. N. Hailmann and Superintendent Whitney of East Saginaw, Mich.; on Thursday morning Professor Tompkins of the University of Illinois, Superintendent Soldan of St. Louis, and President Baker of the University of Colorado, will discuss "Ideals in education," and on Thursday afternoon there will be a series of Round Table discussions. The evening speakers are President Schurman of Cornell, Inspector Hughes of Toronto, and Dr. J. L. M. Curry of Washington.

CHARTER MEMBERS OF THE EDUCATIONAL PRESS ASSOCIATION OF AMERICA.

Paper.	*Post Office.*
American Teacher,	Boston, Mass.
American School Board Journal,	Milwaukee, Wis.
Colorado School Journal,	Denver, Colo.
Educational Review,	New York, N. Y.
Education,	Boston, Mass.
Iowa Normal Monthly,	Dubuque, Ia.
Michigan Moderator,	Lansing, Mich.
New England Journal of Education,	Boston, Mass.
Northwestern Journal of Education,	Lincoln, Neb.
Ohio Educational Monthly,	Columbus, O.
Primary Education,	Boston, Mass.
Primary School,	New York, N. Y.
Popular Educator,	Boston, Mass.
Public School Journal,	Bloomington, Ill.
Pennsylvania School Journal,	Lancaster, Pa.
School Review,	Hamilton, N. Y.
School Bulletin,	Syracuse, N. Y.
School Education,	Minneapolis, Minn.
School Journal,	New York, N. Y.
Teachers Institute,	New York, N. Y.
Texas School Journal,	Austin, Tex.
Western School Journal,	Topeka, Kan.

EDUCATIONAL REVIEW

FEBRUARY, 1896

I

THE EDUCATION OF WOMEN FOR THE LEARNED PROFESSIONS

When Rousseau addressed himself to the task of reforming the educational theory and practice of his time, he did not write a dry, formal treatise on education, but drew a lifelike picture of the mental and moral experiences and of the resultant mental and moral growth from infancy to manhood of an individual human being developing under what he conceived to be ideal conditions. Whatever of educational theory he wished to enforce, he wove into a fascinating story of the personal life of his pupil hero, enlisting the interest of his readers as the surest means of gaining access to their understandings. The result was that *Émile* became an educational classic. Pestalozzi, attacking the same problem from a different point of view, tracing the procedure of the teacher instead of the experiences of the pupil, won his way to the hearts of his readers by picturing Gertrude in daily association with her children, and convinced their reason by showing in concrete form the results of a sound method in education. *How Gertrude teaches her children* has also become a classic, and by the directness of its appeal has convinced as many readers as it has captivated.

Profiting in a modest way by these illustrious examples, I shall try not to weary the readers of the REVIEW with a ponderous discussion of the questions suggested by the professional education of women, but shall invite them to trace with me in imagination the career of a young girl destined for one of the learned professions, and to follow with their sympathetic interest my efforts to guide her by the light of my experience and observation along the path which, though it may not be the shortest road to a professional degree, will lead her by natural and progressive stages, with serviceable equipment and with well-disciplined powers, to the goal of fitness for effective professional work.

Accordingly I will assume that they and I have in mind a young girl of eleven in whom we have a common interest; that she has already shown herself to be physically, intellectually, morally, and spiritually promising,—please note that I do not say precocious, but promising,—and that, therefore, present indications justify us in training her for one of the learned professions.

Whether, when our young pupil comes to maturity, she will attract some discerning and appreciative youth and accept his offer of marriage, we do not know; nor do we care. Young men are sometimes capricious rather than discerning in their preferences, and women who in girlhood were "phantoms of delight" have been known, to the infinite loss of marriageable men, but to the infinite gain of all others who came within the sweet and gracious influence of their personality, to walk through life the path of single blessedness. But happily we do not need to concern ourselves about the possibilities of marriage; for, whatever Bishop Doane of the Albany diocese may think, most of us know that a thoroughly trained mind—yes, even a mind professionally trained and burdened with the responsibilities of municipal suffrage besides—is not inconsistent with the essential charm and grace of womanhood. And so, fearless of results and deaf to the pessimistic prophecies of unsympathetic bishops, we will remorselessly doom our young charge to the discipline of a professional training. We will proceed without misgiving. So competent an authority as Emerson, a higher authority in such matters than Bishop Doane, assures us that, "though the chances seem infinite against success, success is continually attained"; that "nature lifts the young girl easily and without her knowing it over impossibilities"; and that "we are continually surprised with graces and felicities not only unteachable but undescribable."

Our pupil, I have said, when she comes under our care, has reached the age of eleven years and is destined for one of the so-called learned professions. Which one of the learned professions she is destined for we need not yet decide, for the decision, if made, would in no way affect her preliminary training. If we guide her wisely through her secondary and collegiate studies, she will relieve us of the delicate responsibility of choosing a profession for her, and will decide this question more wisely for herself. But at this point in her course we will unreservedly adopt for our guidance the recommendation of the Committee of Ten, who said in their report of December, 1893: "Several subjects now reserved for high schools—such as algebra, geometry, natural science, and foreign languages—should be begun earlier than now and therefore within the schools classified as elementary; or, as an alternative, the secondary-school period should be made to begin two years earlier than at present, leaving six years instead of eight for the elementary school period. Under the present organization, elementary subjects and elementary methods are, in the judgment of the committee, kept in use too long."

In conformity, therefore, with this recommendation, we will select for our pupil a school in which she will have the opportunity to study, between the ages of eleven and thirteen, besides the traditional subjects of the ordinary grammar-school course, objective geometry and the elements of algebra in place of the more difficult and abstract parts of arithmetic; at least one foreign language, and preferably two, in place of such parts of English grammar as are common to English and the related foreign languages and may therefore be best studied incidentally in the acquisition of a foreign language; and elementary science in place of such parts of geography as yield information merely as distinguished from training.

The two foreign languages which we shall select for our pupil will be French and Latin, and, if we are permitted to control the order of succession, French shall precede Latin. Our reasons for preferring this order will be: that French is easier than Latin in vocabulary, grammatical structure, and word order; that it has a wider range of wholesome and interesting juvenile literature; and that it is a spoken language and should therefore, for the acquisition of a correct accent and facile pronunciation, be begun while the vocal organs are still flexible and before the age of self-consciousness arrives.

At the age of thirteen, then, our candidate for professional training will have already been introduced, through the traditional grammar-school course with its supplementary electives, or through the earlier stages of the Latin-school course, to the five fundamental disciplines which are to form the substantial content of her secondary-school course. She will have studied English, history, mathematics, elementary science, and a foreign language, and will be prepared, without the shivering reluctance that precedes the plunge into a wholly new domain of thought, to enter upon the serious and exacting work of preparation for college. If, as we have supposed, our pupil has already studied Latin during her elementary course, she will continue the study of it throughout her secondary-school course; if she has been so unfortunate as not to enjoy this advantage, she will begin the study of Latin now. This she will do not merely because the study of Latin affords a wholesome and necessary mental discipline in itself, or because a knowledge of Latin constitutes an essential part of the outfit of the scholar in whatever department, and is indispensable in the thorough study of many subjects that are of supreme importance in the learned professions, but for another reason, which at first sight may appear trivial or even snobbish, but which seems to me of great practical importance. I shall not enter here on the vexed question of the relative educational value of the ancient classics, nor shall I endeavor to account for the prestige which they still enjoy, notwithstanding the serious arguments and the playful satire that have been directed against them by scoffing utilitarians. I am quite ready to concede that much of this prestige is to be explained on historical rather than on rational grounds—that it is a venerated heirloom from the past rather than a natural outgrowth of the present. But, whatever the explanation may be, the fact is indisputable that the study of Latin has a strong attraction for virile minds. Let anyone who wishes to test the truth of this statement, take an entering high-school class anywhere and offer to the members of it a choice among the three foreign languages, Latin, French, and German. Then, at the end of two months, let him examine the class in the subjects which all have studied in common, as algebra, ancient history, English, or botany. He will find as a rule that the Latin sections easily lead the French and German sections in all these subjects, and that they show a corresponding pre-eminence in the refinements of social intercourse. Now the training that comes not as the result of conscious mental effort, but unawares, through association with vigorous minds and gentle manners, is not to be undervalued. That our pupil may have the advantage, then, of the training that comes by unconscious absorption as well as that which results from conscious effort under the inspiration of good teaching and a well-ordered course of study, she shall continue the study of Latin throughout her secondary-school course.

In due time we shall be called upon to decide for our charge the important question whether she shall study Greek. This is by no means so simple a question as we were called upon to answer when the decision in favor of Latin was made. With the widening domain of knowledge and with the increasing claims of the modern languages, and especially of science, it has become a difficult question, and one which may well give us pause. Preparation for college in Greek is represented in the school programme by five periods a week for three consecutive years and is not to be lightly undertaken. The question whether Greek shall be taken cannot be dissociated from the other question of which it forms a part, viz., shall German be omitted from the secondary-school course of study. Happily the choice of Greek does not involve the total exclusion of science, for experimental physics is now taught in addition to Greek in the classical course of the best secondary schools. But shall our candidate for professional training, who must eventually be able to use German books readily for the contributions they contain to the literature of her profession, enter college with no knowledge of that language? The question is further complicated by the fact that we do not at this stage know which of the learned professions our pupil will select. We have now reached the age of fourteen only, and the young girl of fourteen who has already chosen her future profession by virtue of inborn and consciously recognized aptitudes, or who has revealed to observing friends so marked fitness for a definite line of work that her future profession has, so to speak, determined itself, is so rare that we cannot venture to predict with such confidence as to make our prediction the basis of our choice of studies. If we knew for a certainty that she would follow the medical profession, we might well hesitate, knowing that life is short, to devote fully one-fourth of her working time for three consecutive years to the acquisition of Greek, when we remember that that profession requires prolonged training of the observational powers in several physical sciences and the acquirement of experimental technique through the exercises of the laboratory and the operating room.

Again, Greek is a difficult language. Though our pupil study it three years before going to college, reading a little of the *Anabasis*, a little of the *Hellenica*, a bit of Plato and Herodotus, and half of the *Iliad*, she will still be very far from having acquired the power to read Greek literature with ease. I am sorry to say that I have been a teacher of Greek many years, and have not yet reached the point at which I can say that Plato's Greek interests me more, as literature, than Jowett's translation of it. I am glad to be able with the scholar's equipment to test the accuracy of Jowett's rendering; but if, after a day's work, I want to sit before the fire with my feet on the fender and read the dialogues of Plato as literature, for pure enjoyment of the argument and play of fancy, there being no unsympathetic critic at my elbow to smile derisively at my preference of a translation, I still take the *Phædo* and the *Gorgias*, the *Symposium* and the *Republic* at second hand. There are scores of scholars who can not only read but speak classical Latin with facility, and, if there were any valuable object to be gained by it, I would undertake quickly to acquire such facility; but there are extremely few who even read with ease ancient Greek that they have not previously studied.

Nor is a knowledge of the Greek language necessary to an intelligent appreciation of Greek art. There are other possible ways of entering into the spirit of Greek art than through the medium of the Greek language. Greek history, Greek mythology, Greek art, and to a certain extent Greek antiquities are all open to students of English, French, and German, and need not be approached through the native speech of the people who created them. Shall we then require our candidate for a learned profession to study Greek?

Perhaps, in view of the complications and uncertainties I have outlined, and still more in view of the different biases with which we should approach the subject, we might not all arrive at the same decision on this important question; and so, having the editorial right of initiative, I will relieve my readers of the responsibility of the decision and take the matter into my own hands. Yes, she shall study Greek. But I will not be so dogmatic or so discourteous as to announce this decision without explanation. I cannot, without transgressing the laws of proportion and losing sight of the general subject, argue the question at length; but my reasons, briefly stated, are these:

If our pupil does not begin the study of Greek now, she will probably not have the inclination to begin it later; or, having the inclination, she will not have the leisure; or again, having both inclination and leisure, she will not have the opportunity. How long the colleges will continue to occupy the absurd position of offering courses in the elements of relatively easy living languages like French and German to young men and women who have almost reached their majority, and of refusing to offer courses in the elements of difficult dead languages like Greek and Latin, I do not know; but that, speaking generally, is their position now; and the proposition of the Committee of Ten to reduce the time devoted to Greek in the classical course of the secondary schools from three years to two has been met with vigorous and determined opposition from the classical departments of the colleges, whose representatives declare that the schools, and not the colleges, are the proper places for elementary instruction in Greek. If, therefore, our young charge is to study Greek at all, she must begin it now. To the objection that the choice of Greek carries with it the rejection of German, the obvious answer is—not the rejection, but merely the postponement. For, long before the need of ability to read in that language arises, she will have excellent opportunities for studying it, either at home or abroad, with the added advantage that her grammatical and literary study will be re-enforced by practice in speaking and writing German. Moreover, the linguistic training she has gained through the study of the ancient languages will enable her to get a better practical knowledge of German in six months than she has acquired of Greek in half as many years.

Again, in the case of a candidate for one of the learned professions, even a merely elementary knowledge of Greek is well worth acquiring, if only for utilitarian purposes. Such knowledge furnishes the only key which will unlock the terminology of the natural sciences and of formal logic and the scriptural sources of theology. For the physician, the lawyer, and the divine, therefore, it is hardly an exaggeration to say that an elementary knowledge of Greek is indispensable. It is at least indispensable for that knowledge from the inside, that appreciation of the inner content and meaning, without which no real scholar rests satisfied. If we may extend the domain of the learned professions so as to make it include the work of the higher order of teachers, the value of a moderate knowledge of Greek, for strictly utilitarian purposes, will be still more clearly apparent.

But when, apart from mere utility, we remember that our pupil will always have to live with herself, and that therefore it behooves her to qualify herself to be her own best possible companion, the argument for the study of Greek becomes especially strong. Think for a moment of the treasures of literature and art suggested by such names as Homer, Æschylus, Sophocles, Plato, Aristotle, Pindar, Praxiteles, Phidias! Who that is familiar with the contributions of Greek history, Greek mythology, Greek philosophy, Greek literature, and Greek art to modern life and thought, especially to modern poetry and philosophy, can fail to recognize the value, for the higher culture, of the key which unlocks them all? It is true, as I have already said, that all these may be reached by other roads; but he who so reaches them comes to them as a traveler only; not as one to the manner born. He is a spectator, an invited guest, a welcome sharer at the feast; but he is not one of the initiated; he has no part in the inner, the diviner mysteries.

But I am becoming tedious—perhaps flighty even, which is worse than tedious. Perhaps, too, notwithstanding my earnest desire to prove that I have chosen wisely for our pupil in selecting Greek as one of the substantial studies of her secondary-school course, I may not have succeeded either in convincing the reason or winning the sympathy of my readers. However that may be, of this we may rest assured: Hereafter in her collegiate and professional career there will be two things that we may take for granted: her mental powers will be trained to work with precision, with patience, and without fatigue; and the windows of her soul will be wide open for the hospitable entertainment of whatever makes for culture.

At length our young charge has reached the age of seventeen and has finished her course at the secondary school. The time has now come for the next important decision to be made in her behalf. The professional school, I am sorry to say, stands ready to receive her at once with open arms, meager and imperfect as her equipment is for professional study. Indeed the standard of attainment required for admission to most of our professional schools is so low that it would not have been presumptuous in her to seek admission a year or two earlier. Shall she skip the college, choose her profession, and enter at once on professional study? By no means. We will not deserve the condemnation of her mature years by acting precipitately at this stage, but will respect our own judgment, and at the same time earn her lifelong gratitude, by determining the next stage in her education in accordance with two sound principles: first, as has already been said, she is to be her own constant companion throughout life and must therefore be liberally as well as professionally educated; and secondly, she is to be trained for one of the learned professions, and so must lay a broad foundation. Undue haste in matters of education is criminal waste.

She shall have, then, a collegiate course of training before entering the professional school. What considerations shall determine her choice of a college? Happily, the number of triumphs a given institution has achieved in football or baseball contests will not affect her personal preference, as they certainly will not affect ours, and we may make our choice of a college quite independently of such extraneous considerations.

Of the first importance, of course, will be the quality of the instruction offered, which is only another way of saying the ability, proficiency, and skill of the teachers provided. On this point we are, within limits, of the opinion of Emerson, who said that he cared little what subjects his daughter studied, but considered it of supreme importance under what teachers she studied them. But there are many things besides that claim our consideration. Assuming that our pupil has in ourselves competent advisers, we will not hesitate, provided the quality of the instruction be of the best, to choose for her a college in which most of her work from the very beginning will be elective, even though we have no other guidance, in the official publications of the college, than a printed list of the courses that are offered. But if the quality of the instruction be equally good, we will not scorn such expert counsel as is embodied in the familiar distinctions of "major" and "minor" courses and the "group system" of electives. For it is a sound principle in education that the student should learn much about a few subjects and a little about many subjects; that she should study a few things thoroughly for training, and many things in a more general way for breadth of view. For it is not enough that she should learn how to make additions to existing knowledge in her chosen department; she must also have that saneness of mind that comes with a knowledge of what the race has achieved in other departments. Just so in literature we select some works for study, or, as Bacon would say, to be chewed and digested, and others for cursory reading—for the kind of culture that comes from unconscious absorption. We will take care that our pupil does not, in her ambition to become thoroughly trained, make the mistake, through excessive training in a single direction, of becoming narrow and bigoted.

Training in English, both oral and written, she shall have throughout her college course, for what she knows she must be able to communicate effectively in speech and in writing, or it will be of no use to others, and of but partial use to herself. Thought, indeed, precedes language and is its mistress and guide; but language reacts on thought and makes thought definite and precise. If there is any special subject—harmony in music, for example—for which, owing to native taste and inborn aptitude, she has a marked predilection, she shall be allowed to give free scope to this inner prompting. We will not be guilty of the folly of attempting to thwart nature. But whether she has aptitude for natural and physical science and interest in the pursuit of it or not, she shall study some branch or branches of it. She shall at least become acquainted with the inductive method of scientific investigation, so as to be in sympathetic touch with the spirit of the age in which she lives. Then, too, her brain will be a better instrument for work, in whatever department, if all the brain areas have been cultivated. General history, too, she shall not neglect, for she must be acquainted with the great movements which have resulted in modern civilization: must have a proper background for the minuter knowledge of such special periods as her studies in other directions may introduce her to, and must lay the foundation for an intelligent cultivation of the humanities, which are to afford the material for the congenial employment of her leisure throughout life.

With these general principles to guide us, we shall not find it difficult to aid our young student in her choice of studies for the first two years of her college life. At the end of this period, let us hope that she will begin to think seriously of the choice of a profession, and therefore to take upon herself some initiative in the selection of her college courses, and that she will relieve us of much of the responsibility which we have hitherto assumed by giving evidence of such independent maturity of judgment that we can safely grant her large powers of self-direction. But let us hope, too, that we have so commended to her both our sympathetic spirit and our sound judgment, through the wise direction of her studies, that she will still be inclined, at least in doubtful cases, to welcome our suggestions. If so, we will tell her, with reasons, which of the studies open to her choice will be most helpful in preparing the way for the professional study which is to follow her collegiate training. If there is an able professor of economics among her teachers, we will impress upon her the importance of a side excursion in this field as a means of acquiring an intelligent interest in the economic and financial questions that are playing so important a part in contemporaneous history. If there is an able professor of philosophy, we will say a word in behalf of the spiritual side of life, and urge her to try her powers and taste for the investigation of the subtler and profounder problems of human life, conduct, and destiny.

At last the student whose course we have followed has reached, at the age of twenty-one years, the threshold of the professional school. We will not stand aghast as we reflect that she has already reached her majority and has not yet begun the professional studies that are to prepare her for her life work. Man, unlike the lower animals, does not reach mature development at a bound. He is trained slowly to the maturity of his powers. It is not the age at which a man or woman begins to earn money that counts, but the age at which he or she begins to do effective work. There are thousands of men and women now in mature life who began to teach school at eighteen or nineteen years of age, and who have been self-supporting ever since; but what gaps in training and attainment they had to fill later, what wretched work they did, and how they trifled with the dawning powers of the youth committed to their charge! Even at the age of thirty, how feeble were their powers, and how meager their attainments, compared with those of persons of the same age whose period of preliminary training was more prolonged! No, we will not grow impatient at the postponement of the bread-winning period. Our young student is to be one of the leaders of the thought and activity of the community in which she is to live, and preparation for leadership requires time. Besides, the general public, which is to be her constituency, is shrewd and circumspect. It will not rashly give its confidence to extreme youth and inexperience. At the age of twenty-five, she may rapidly and easily gain the confidence which at twenty-one she will court in vain.

Our student has probably already substantially made her choice of a profession; but, before that choice becomes irrevocable, or perhaps as the best means of making it irrevocable on rational grounds, we will ask her to read a work which Dr. Harris, the United States Commissioner of Education, has recently brought to my attention. With the means afforded in this work for a general survey of what educated women have already accomplished, supplemented by such information as I have been able to gather from more recent sources, we will confidently leave her to her own intelligent self-direction. I refer to *Woman's work in America*, a book edited by Annie Nathan Meyer and published by Henry Holt & Co. We will especially commend to her attention chapters vii, viii, and ix, entitled respectively: "Woman in medicine," "Woman in the ministry," and "Woman in law." The first, and the most interesting and valuable of these chapters, contributed by Dr. Mary Putman Jacobi, divides the history of women's progress in this country to full recognition as professional physicians into seven periods. The first is the colonial period, during which women were the only midwives. The second is the period of the Revolution, during which the advances made in medical science resulted in the expulsion of women midwives from the outlying province of the medical profession because of their ignorance. The third is the period of reaction, in which the invasion of the department of midwifery by men was opposed on the ground of impropriety. The fourth is the period which begins with the opening, by Mr. Samuel Gregory, in Boston, of a medical school for women, in 1848, as a means of educating women for the obstetrical and gynecological work to which nature and the obvious social proprieties call them. The fifth is the period of the Civil War, during which small hospitals were founded, to which women were admitted to receive the clinical instruction without which they could not hope to obtain, or to deserve, recognition as physicians worthy of being intrusted with the responsibilities of the medical profession. To these hospitals, in individual cases, were added medical college annexes. The sixth period, hardly separable chronologically, in its beginnings, from the fifth, was the period of struggle on the part of women physicians to secure official recognition from their brethren of the medical profession, by admission to the privileges of membership in medical societies, and the acknowledgment of reputable standing implied in the interchange of the courtesies of professional consultation. This period of struggle for official recognition may be said to have closed in 1882, at which time seventeen medical societies contained altogether 115 women physicians; the medical society of New York State alone containing 42. The seventh period is that of the extension to women of opportunities for study and practice in large hospitals; opportunities which afford the natural, and perhaps the only efficient, means of enabling physicians to keep in touch with the progress of the science of medicine.

For information as to the medical colleges open to women now existing in the United States, including their courses of study and their professional standing in the medical world, and for information as to the legislative regulation of the practice of medicine prevailing in the several States, we will refer our student to the report on medical education and medical colleges issued in 1894 by the State Board of Health of Illinois. The State of Illinois has on its statute books a stringent medical practice act, which is enforced with commendable rigor by the State Board of Health. Under this act no person is permitted to practice medicine in Illinois without having first been duly certificated by the State Board of Health. This legislation practically gives that board the power to fix the standard of medical education to be reached by all persons admitted to practice within the limits of the State. "The reports on medical education issued by the Illinois State Board of Health," says Dr. J. Collis Warren, professor of surgery in the Harvard University Medical School, "I do not hesitate to say, have exerted a more powerful influence on the movement in education than any other publication which our medical literature has produced."

According to this report, there are, for example, in Massachusetts four institutions at which a medical education may be obtained and the degree of M. D. received. The requirements for matriculation and graduation at each of these institutions are given in this report; also the duration and content of their courses of study. Two of these institutions, which have a four years' graded course of study, are recognized as in good standing, viz., the Medical School of Harvard University and the Boston University School of Medicine; and the last named is open to women. Of the two remaining, both of which are open to women, one, the Tufts College Medical School, seems not to have been tested by the Illinois State Board of Health through the applications of any of its graduates; the other, the College of Physicians and Surgeons, of Boston, is by implication pronounced to be of doubtful standing, for it is classed among those institutions the evidence of whose diploma must be tested by an examination, before the holder can be admitted to practice in the State of Illinois.

According to the latest information of the Bureau of Education, kindly furnished me within a few months by Dr. Harris, the total number of medical schools in the United States in the year 1894 was: regular, 109; homeopathic, 19; eclectic, 9; physico-medical, 3; preparatory medical departments, 2; graduate schools, 10; total, 152. Of these, 8 were open to women only; 72 had men and women in attendance; and the number of women in attendance was 1419.

According to Dr. Mary Putman Jacobi, in the article on "Woman in medicine" to which I have referred, "The women physicians in America share, while rather intensifying, the main characteristics of their medical countrymen. They have, as a rule, little erudition; but they have great capacity for bringing to bear all available and useful knowledge upon practical issues. They certainly do not read enough; and there is, therefore, a noticeable thinness in their discussions of medical topics when they meet in isolated council. But they have a resolute helpfulness in dealing with the individual cases intrusted to their care and a passionate loyalty to those who have put their trust in them. They are possessed of abundant motive power for concrete intellectual action, though they might lack this power if the work depended exclusively on abstract intellectual interest." In a personal letter received by me in response to a request for suggestions bearing on the subject of this paper, the same writer says: "In women we find, on the whole, a less quantum of force, or surplus of vitality over and above the needs of individual nutrition. This relative defect must be compensated by greater precision of technical training in order to diminish the friction of the mental working-machine—an instrument of precision may, under favorable circumstances, turn out work which is equivalent in value to that effected by sledge hammers. This need of strenuous drill and discipline—a sort of West Point system—is not recognized in the medical education of women at all, at present. In fact, it is only just beginning to be accepted that a college education is a desirable preliminary to plunging into the extraordinary difficulties of medical study. It is still generally supposed that to offer a curriculum to be traversed is all that is necessary; whereas the real need is of practical exercises of considerable severity and variety, in order to train faculty and develop new brain force where inherited and traditional basis for exact work was lacking. The absence of this and of great medical teachers in America—at all events, who are accessible to women—goes far to explain the mediocre results so far achieved."

The Rev. Ada C. Bolles, in telling the story of women's work in the ministry, finds it more convenient to trace its progress not by successive stages of onward movement, but from the starting point of the several denominations. The Methodist Episcopal Church of America, she says, is singularly backward in recognition of its women, one only having thus far been ordained by that denomination, although Wesley had encouraged the preaching of women; the Baptist denomination, except for the division known as Free Will Baptists, among whom a few women preachers have been ordained, has taken no steps toward the admission of women to the ministry; the Presbyterians, though they have taken no positive steps, seem not unfavorably inclined toward such admission; under the Congregational system, any individual church may ordain for itself a woman as its pastor, and this has been done in several instances; the German Lutheran denomination, as represented in a recent session of the Missouri Synod at Baltimore, decided, but perhaps not finally, that women must not teach in the pulpit; in the so-called Christian denomination, each church is an independent body, and women are eligible to its pulpits; the Universalist denomination was the first to open the doors of its theological schools to women, and fifty or more women, toward whom the clergymen of the denomination have extended a cordial welcome, have been ordained as preachers; in 1870, the Meadville (Unitarian) Theological

School opened its doors to women, and within the next twenty years received sixteen, of whom five were graduated.

At the present time, according to statistics derived from the Bureau of Education, there are in the United States 147 theological schools, of which 18 are Roman Catholic, 129 Protestant. None of these are established for women only. Four or five theological schools in New England have some women students, mainly such as are preparing themselves for foreign missionary work. The total number of women in the theological schools for the current year is from twenty to twenty-five.

Miss Ada M. Bittenbender, in tracing the history of women's work in the law, adopts the method of progress by States. According to this authority, Iowa was the first State in which a woman was admitted to the bar; and the date of this admission was 1869. In 1872 the legislature of Illinois, moved to action by the fact that a woman applicant for admission to the bar had been rejected under the existing law, enacted that no person should "be precluded or debarred from any occupation, profession, or employment (except military) on account of sex." In 1873 the Supreme Court of the District of Columbia admitted a woman to practice, and in 1879 the Supreme Court of the United States took the same step. In 1875 application was made by a woman for admission to practice before the Supreme Court of Wisconsin, and, on her rejection under the existing statute, the legislature promptly met the rejection by passing an enabling act. In 1881 Miss Lelia J. Robinson, of Boston, since become Mrs. Sawtelle, applied for admission to the bar, and, being excluded under the interpretation of the existing law given by the Massachusetts Supreme Judicial Court, was admitted in the following year, the legislature having enacted in the interval a statute providing for the admission of women on the same terms as men. In 1882, under an interpretation by the Supreme Court of Connecticut of a statute not more liberal in its terms than that which had been adversely interpreted by the Supreme Court of Massachusetts, a woman was admitted to the bar without the interposition of the State legislature. At this time, *i. e.*, 1882, the court records showed that there were 56 women attorneys in the country, of whom 31 had been graduated from law schools. The majority of the law schools of the United States now admit women freely as students, but among those which do not are the law departments of Harvard, Yale, and Columbia Universities. The dean of the law department of the Michigan State University, which has graduated more women than any other law school in the country, says: "The women who have attended the law school have compared favorably in scholarship with the men. They are just as capable of acquiring legal knowledge as men are." It may be said generally that where existing statutes, as interpreted by the courts, have not authorized the admission of women to practice at the bar, the State legislatures, on being appealed to, have almost without exception promptly passed enabling acts; and that, at the present time, women are entitled to practice on the same terms as men before the courts of the country, both State and federal.

"Most of the women who have been admitted to practice at the bar," says Miss Bittenbender, "are ripening into able, experienced lawyers, and winning their fair share of clientage. Some confine themselves mainly to an office practice, seldom or never appearing in public; others prefer court practice. Those who enter the forum are cordially countenanced by brother lawyers and acceptably received before court and jury. As a rule they are treated with the utmost courtesy by the bench, the bar, and other court officers. Woman's influence in the courtroom as counsel is promotive of good in more than one respect. Invectives against opposing counsel, so freely made use of in some courts, are seldom indulged in when woman stands as the opponent. And in social impurity cases, language in her presence becomes more chaste, and the moral tone thereby elevated perceptibly." In another place she says: "In every case involving unclean issues, some woman must appear as complainant or defendant, or be in some way associated. What more proper, then, than that some other woman should be in court, clothed with legal power, to extend aid and protection to her sister in trouble, that justice may be done her, and the coarse jest and cruel laugh, so proverbial in social impurity cases before woman's advent as pleader, be prevented?"

In the year 1894 the total number of law schools in the United States was 67. In 21 of these women were enrolled, and the total number of women enrolled in law schools was 54.

I have said nothing up to this point on the general subject of the higher education of women, but have kept strictly within the limits of the announced subject of this paper—the education of women for the learned professions. It has cost me some self-denial to keep within these limits, for the general subject seems to me a more inviting one; and, encouraging as the prospects of women are for recognition and unfettered activity in the so-called learned professions, the outlook for them in the broader and more attractive fields of general culture is still more hopeful. Post-graduate university study is now open to them everywhere, even in the most conservative institutions, on the most liberal terms. Nor am I sure that other occupations than those having to do with medicine, law, and theology have not already earned the right to be classed among the "learned" professions. Sometimes indeed, when I consult the meager list of requisites for admission to the professional schools, I almost question whether even a four years' course of serious study based on so flimsy a foundation affords adequate preparation for the work of a profession that claims the title of "learned." Traditional names are kept in use long after the substance they once stood for has become a shadow. Amelia B. Edwards, the Orientalist, and Jane E. Harrison, the archæologist, whose original contributions in the departments of research to which they have devoted themselves have made their names familiar throughout the world of letters, seem quite as much entitled to a place among the "learned" as the women who have gained recognition in medicine, in law, or in the ministry.

At the recent commencement exercises of Radcliffe College, President Eliot said—not in a spirit of derogatory criticism, but rather with a note of interrogation—that women have as yet proved their ability only to learn from teachers and to practice what they have been taught; that they have not yet, at least in any considerable numbers, shown power to originate; and he illustrated this conservative tendency of women by the scriptural quotation, "Mary kept all these things and pondered them in her heart." His remarks, as I listened to them, brought to my mind a criticism which I read a few months ago in the *Classical Review*, written by Jane E. Harrison on the published essay on "The Cult of Asklepios" of a woman contributor to the *Studies in classical philology* issued from one of our American universities. The essay, she said, showed that the candidate had made herself familiar with all that had been done by others in the department of investigation covered by it, but it added nothing to the sum of knowledge already gained. In other words, it was a highly creditable compilation, but not an original contribution. I suppose that the warmest friends of the higher education of women will have to acknowledge the justice of this criticism at the present time, and will have to content themselves with the retort that but very few men make original additions to the world's acquired knowledge. It is to be hoped—and I say it not in any scoffing spirit, but with a full and hearty recognition of the intellectual equality of the sexes—that, for the sake of the domestic, social, and moral progress of the race, the original contributions made by women as compared with those made by men to the sum of human knowledge will continue to be few; but that, with equal leisure and opportunity for research, they will make as valuable original contributions as men, I cannot for a moment doubt.

JOHN TETLOW

GIRLS' HIGH AND LATIN SCHOOLS,
BOSTON, MASS.

Other articles on the education of women have appeared in the EDUCATIONAL REVIEW, as follows:

Co-education in Boston, by Louisa Parsons Hopkins (January, 1891); Women as graduate students at Yale, by Professor Arthur T. Hadley (May, 1892); Women students at Oxford (May, 1892); Sex in education, by Sir James Crichton-Browne (September, 1892); Girls' education in Italy (February, 1894); Woman's education in the South, by Mary V. Woodward (May, 1894); University opportunities for women, by Louis Frank (December, 1894).

II

THE USE OF ANTHROPOMETRICAL MEASUREMENTS IN SCHOOLS

The time in which we now live will always be memorable as the beginning of a great educational reform. It has seen the complete demonstration of a law which is causing a revolution in educational methods; the law that, in the average, the physical strength of the child and his power to do school work go hand in hand. It has seen the partial introduction of systematic measurements of children and the systematic employment of these measurements in fitting school work to the pupil's strength. It will yet see the universal adoption of this rational and beneficent principle.

It is therefore of the first importance that the ideas which underlie the physical measurement of children should be clearly understood, and that the limitations of the methods by which these measurements may be applied practically should be distinctly recognized. And this is the more important because the methods in question are of only approximate correctness and are thus open to attack by those who would discredit the whole movement, forgetting, in their zeal for flawless methods, that even an imperfect tool may serve a pressing need.

The use of anthropometrical measurements in schools rests on the fundamental truth that the average or other central value of a group of properly related measurements gives an idea of the character of the group. Thus, the average height of boys aged nine affords a basis for a mental picture of the height of all boys of that age. The central value adopted becomes in this way the type of the objects measured.

The central value gives in itself no information concerning the degree in which the individuals of the group differ from the central value. Common observation, however, teaches that giants and dwarfs are rare and that the physical dimensions of children of the same age differ within relatively narrow limits. The central value comes thus to include the conception that extreme deviations are infrequent and that most of the individual measurements in the group lie near the central value. This materially strengthens the idea of type.

The type-value thus developed is found to increase in size from year to year, according to a definite law. Thus the type or central value at age ten is larger than at age seven. Sexual differences are also established. It is found that the central value for girls up to age twelve and after age fourteen is less than for boys of the same age, while from age twelve to age fifteen it is greater. This fact is expressed by saying that during these years the typical girl is larger than the typical boy.

It cannot be too strongly insisted that the laws just mentioned are the laws of growth of the type and not necessarily the laws of individual growth. Yet the fundamental conception of central value or type permits their application to individuals within certain limits. It has already been pointed out that the type idea includes the conception that most of the individuals in the group lie near the central value. It has been said also that the central value of both sexes increases from year to year and that the central value for girls during the ages twelve to fifteen is larger than that for boys. The first and second of these truths enable us to say that the chances are that any individual boy or girl will increase in size from year to year. The first and third justify the statement that if a boy and girl of the same age are selected at random, the chances are that the boy will be larger than the girl except during the ages twelve to fifteen.

The fundamental conception of type permits us to go further. The central value of the whole number of boys or girls at any age is typical of that whole number. The individuals above the central value form a group of larger, and those below a group of smaller children. The two groups stand in our minds, by deduction from the fundamental idea of type, as large and small children. Then the central value of the upper group will be typical of large children, and the central value of the lower typical of small children.

The central values of the two groups, at each year in the period of growth, convey an idea of the size of large and small children respectively at each year. The increase in these central values from year to year cannot, however, by deduction from the fundamental idea of type, be termed the growth of the typically large and the typically small child. The fundamental idea limits us strictly to the central values of large and small children at any one year. This limitation becomes clear at once when it is remembered that, although the fundamental idea of type includes the conception that an individual selected by chance will seldom vary greatly from the central value, it does not give any information whatever as to the direction of the variation, whether above or below the central value. Consequently, it cannot be said, as a deduction from the fundamental idea of type, that an individual found above the central value of the whole number at any age will be found above the central value of the whole number at any subsequent age. The side of the central value of the whole number on which he may be found cannot be inferred from the fundamental idea of type. Those who, like myself, have written of the growth of the typically large and typically small child have assumed that children remain approximately at the same distance from the central value of their age and sex throughout their period of growth. They have assumed, for example, that a boy who at age seven is above the central value of his age will probably remain above; in other words, that large boys usually grow to be large men. This assumption has evidently no necessary connection with the fundamental idea of type. Its present justification is derived from the very general opinion that violent oscillations in the growth of the individual are on the whole uncommon. The importance of testing this belief by annual measurements of the same children, and the use to which the information thus secured could be put in predicting future growth, will be presently made clear.

The division of the whole number at any age into those above and those below the central value suggests a farther division. This is well accomplished by the method of Francis Galton, according to which the individuals at any age are arranged in order, from the smallest to the largest, and divided into percentile grades. The relation between the size of any child and the size of other children of the series measured may thus be known. It may be found, for example, that a boy is taller than forty per cent. of the other boys measured at his age and not so tall as sixty per cent. If the series measured is very large, the observation may be safely generalized and the boy declared taller than forty per cent. of all boys of his age, race, and social condition. Percentile grades find therefore an important and legitimate use in determining percentile rank at any year.

Percentile grades cannot, as yet, be used for prediction of future size. It cannot, for example, be positively said that a boy who at age ten is heavier than seventy per cent. of boys of his age will at age fifteen be heavier than seventy per cent. of boys at that age. The objection to such a statement has already been pointed out in the remarks on the central values of the groups of large and small children. The objection is that it is not positively known whether the individual remains in the same percentile grade, *i. e.*, at the same distance from the central value, from year to year. But this limitation, I may once more insist, does not affect the use of percentile grades to determine percentile rank in any one year.

There is much difference of opinion as to what should be taken for the central value. The use of the average (arithmetical mean) to express the fundamental idea of type is an immemorial custom. Quetelet, having demonstrated that children's heights and weights at any age were distributed about the central value approximately in the form of a probability curve, and believing, incorrectly, that the distribution of an infinite number of measurements would be perfectly symmetrical, chose the most frequent value (*value moyenne*). Galton has proposed the fifty percentile grade (median value), and Boas has recently advocated a fourth value, which takes account of the fact that the distribution curve at any age is not perfectly symmetrical. The most frequent value is now seldom or never used. Almost all investigators have employed the average. Some have based their work on both average and fifty percentile grade.

In this state of uncertainty as to which of these values most nearly represents the true type, it is necessary to determine whether the differences between them are large enough to cause a serious error in their practical use. Dr. Bowditch and I have shown that the difference between median and average values is small, where a large number of measurements is made. The difference between the average and Boas's value is also small. These facts justify the belief that the difference between any one of these three values and the true type is without practical importance. For the difference between the average, for example, and the true type value is very much less than the error which unavoidably accompanies the attempt to fix the relation of a growing child to the type child, and, for practical purposes, may therefore be neglected. For the present, then, the average, or, if the number of measurements is large, the fifty percentile grade, may for practical purposes be taken as a sufficiently close approximation of the true type value.

The sharp discussion concerning the value which should be taken as the type has perhaps given this question undue importance in the eyes of the practical educator. For the theory of statistics the question is indeed of great importance, but it does not particularly affect the use of anthropometrical measurements in schools.

The use of anthropometrical measurements in schools finds its best justification in the acknowledged or tacitly accepted truths that the work required of the pupil of average strength cannot be done without injury by the pupil of less than average strength, and that the strength of children can be estimated from physical measurements. The problem, then, is to divide pupils into two physical grades: the first including those whose physical development makes it probable that they can do the usual school work of their age without injury; the second, those whose physical development makes it probable that they cannot do this work without injury, and who therefore demand special care and watchfulness.

The physical measurements which are to serve as the basis of this division should be, for economic reasons, the fewest possible consistent with the end in view. It is generally believed that the ratio between weight and height is the best easily determinable measure of strength in dealing with great numbers of individuals. The practice of life insurance companies, and of many "physical trainers," support this statement. The division may therefore be made on the basis of the ratio of weight to height. The principle of division should be the following: Of 1000 boys of the same age 500 will fall between the seventy-five and the twenty-five percentile grades. The weights of this central 500 will be the usual, and hence presumably normal, weights of boys of that age. The chances are one against one, that the weight of any boy of that age, selected by chance, will fall within the limits mentioned. If the weight of the boy is greater than the seventy-five or less than the twenty-five percentile grade, the chances are that the weight is unusual and therefore abnormal. The greater the deviation, the greater the probability that the weight is abnormal. The line which separates the probably normal weight from the probably abnormal weight may therefore be drawn at the seventy-five and the twenty-five percentile grades. The same considerations hold good for height and for the ratio of weight to height. This ratio should undoubtedly be derived from the seventy-five and twenty-five percentile grades of the weight to height ratios of a great number of children at each age. Such material is, however, not yet collected in sufficient quantity. For the present, therefore, it will be necessary to find these ratios by dividing the values at the percentile grades of weight by the values at the percentile grades of height. The difference in the methods is probably not of great practical importance.

It will not escape notice that these operations are carried out without the use of the central value, and that the practical educator is thus not directly concerned in the controversy over the central value. For the present, at least, the height to weight ratio at the seventy-five and twenty-five percentile grades will serve his purpose.

I say "for the present," because the future should bring a great advance in the use of anthropometrical measurements in schools. It has already been several times insisted that the data in our possession do not suffice for certain prediction of future growth. In other words, this material does not determine with exactness the rate of growth of the individual. The present data have been collected by the generalizing method, that is, by measuring once a large number of children of different age, classifying the measurements by age, and assuming that the values obtained are those that would have been obtained had children of the same age been measured yearly throughout their period of growth. The generalizing method deals with units rather than individuals. The children who furnish the measurements for age eight are not the children who furnish the measurements for age nine. They are different for each year. The results, therefore, say nothing as to the growth of the individual child from year to year, except what may be inferred from the increase in the type value. If the boy *X* and the boy *Y*, who at age seven are in the seventy-five and the twenty-five percentile grades respectively, change places at age eight, the central value will be unaffected by the change, for the distribution of units will be the same as before, but the growth-curve of the individual boys will show a large deviation.

This lack of material is especially to be regretted because the rate of growth or annual increase is certainly a more reliable guide than the height and weight at any one year. The lacking material, however, can be easily collected, and those in charge of schools should see to it that measurements of the same children are made annually, or oftener, throughout their school life. In the course of fifteen or twenty years such measurements would solve the crucial problem of the relation of the individual to the type. Those who reflect upon the questions mentioned in these pages will hardly avoid the conclusion that this gap in the theory of child-growth does not prevent the extended use of anthropometrical measurements in schools.

There are no doubt many opinions as to the way in which such measurements should be employed. As to details, such differences are inevitable, and are to be welcomed rather than regretted. On the other hand, a difference of opinion as to main working lines is to be deprecated, for these lines are the logical outcome of fundamental principles. The working plan of every system grounded on these principles should provide for (1) The annual record of the height and weight of every pupil; and (2) The placing of pupils whose weight to height ratio is above the seventy-five or below the twenty-five percentile grade of their age under special supervision, in order that they may not be overtaxed by the work exacted of the normal child.

WILLIAM TOWNSEND PORTER

HARVARD MEDICAL SCHOOL,
BOSTON, MASS.

Other articles upon various phases of Child-study have appeared in the EDUCATIONAL REVIEW, as follows:

A statistical study of memory and association, by Professor Joseph Jastrow (December, 1891); Defective vision in school children, by Dr. Samuel Risley (April, 1892); Notes on educational method, by Professor Harry K. Wolfe (June, 1892); Sex in education, by Sir James Crichton-Browne (September, 1892); Habitual postures of school children (illustrated), by Dr. Eliza M. Mosher (November, 1892); Tests on school children, by Professor E. W. Scripture (January, 1893); Tests of the senses and faculties, by Professor J. McK. Cattell (March, 1893); Pedagogical value of number-forms, by Mrs. Adelia R. Hornbrook (May, 1893); Exceptional children in school, by Principal E. H. Russell (December, 1893); Ethical contents of children's minds, by Professor F. W. Osborn (September, 1894); Aims and status of child-study, by Professor E. W. Scripture (October, 1894); Bashfulness in children, by Professor J. Mark Baldwin (December, 1894); One year with a little girl, by Dr. Oscar Chrisman (January, 1895).

III

THE ETHICS OF THE PUBLIC SCHOOLS

This is a day of earnest educational awakening. Intelligent thought, within and without the teacher's profession, is being applied to the teacher's work. The recent reports of the Committees of Ten and of Fifteen, upon the existing needs and the improvement of the secondary schools, are the most powerful documents in the history of American pedagogics. The kindergarten is contributing its genial spirit all along the line, while the university is intensely interested in the development of the best lower-grade schools. The discussions of the Herbart Club, the investigations in child-study, and the doctrine of individualism have been turning inward the eyes of schoolroom methods. The American magazines are full of earnest criticism, which the better school men are receiving at its proper value. But of all questions that are and can be propounded there is one of supreme importance, growing more and more out of the trend of economic considerations; and that is, What is the ethical value of schoolroom results? In what way are the public schools lifting the children of America to a higher as well as a broader plane of life?

This is a vital question, for the public schools represent the spirit and foundation of our nation's life. The home is of too unfortunate an average standard to present at large a high ideal; the Church is too limited in its range of contact; but the public schools, with their seventeen millions of children, represent the integral life of to-morrow's promise, and have the everything of opportunity for the making of men and women, and for determining the future of the republic. Therefore, the great, the vital question of the educational world is, What are the schools doing toward the making of character? For this is the supreme end of all education. If the public schools are not giving a moral, as well as an intellectual and physical development; if they are not lifting mankind to a higher standard of life, then they are not meeting the requirements of their mission and have no right to their place in our national economy. We are in the midst of a sea of perils: the tendencies to so-called socialism, communism, and the materialistic; our tramp life and the parasitic elements attaching themselves to the industrial movements of the day. But these perils cannot be met by a nation adrift. There must be a rudder to our ship of state; and that rudder must be character in citizenship, which is possible only as the direct product of educational effort.

The charge is frequently heard, advanced by those who have not caught the spirit of modern education, that "the public schools are godless schools." This is the cheap doctrine frequently taught by those interested in the denominational school, and sometimes uttered by some narrow ecclesiastic who feels that his profession has a monopoly of all ethical teaching.

Now I hold, essentially and fundamentally, to a complete separation of the Church and the state; but there is one thing to be remembered—this is a nation founded in religious faith and characterized by the recognition of supreme intelligence. This is not a nation of agnosticism. The consecration of the Pilgrim Fathers; the precedent prayer of the framers of the Declaration of Independence; the historic prayer of Washington at Valley Forge; of Lincoln in another night of national gloom; the appeal of Garfield to the frenzied mob in New York; the national recognition of Thanksgiving Day and of Christmas as legal holidays; the universal celebration of the birthday of Christ—which if any man doubt, let him go walk the business streets at Christmas-tide; the observation of the Sabbath Day, enforced in part even upon the doers of evil; the "As you shall answer to God" in the customary oath of every court in the land; the time-honored kissing of the Bible as the President of the United States takes his chair; the opening of Congress and legislatures with prayer; the maintenance of chaplains in the army and navy, and in all State institutions of penalty and reform; the many State mottoes; and the coin, of current use, which expresses the underlying faith of the Republic in the talismanic words, "In God we Trust"—these, and many other characteristics, indisputably evidence that this nation—the American nation—is fundamentally and forever a Christian nation, and as such has a right to the recognition of God in the public schools. I like the teacher free from religious cant and denominational bias; but, at the same time, I admire the one who in viewing creation does not close his eyes to glimpses of the Creator, and who does not hesitate to look up from "Nature to Nature's God." This is not sectarian in principle, and is thoroughly indorsed by State Constitutions ordinarily thought to be suppressive. Freedom and liberty and national practice demand that the teacher, in her work, shall have the right to the recognition of God's sovereignty; and many more than the people think are they who permeate their work with such vivifying essence.

But while the idea of God has its entitled place in schoolroom recognition, I do not believe ethics is best taught as a creed. During the past few years quite a number of textbooks on ethics have been published for use in the secondary schools. Such instruction has little more than Lilliputian value. Ethics cannot be taught from the outside. Ethical training cannot be something of extraneous character, but must be an integral part of the every exercise of daily life—the atmosphere in which one lives—the spirit which one breathes. With this view of the question, the public schools are preeminently the place where opportunity is given for character-building; and if in any respect the output has been unsatisfactory, it behooves the people to be awake to the necessity of providing conditions that will make all the more powerful this fundamental factor of the American republic.

Now let me consider a few cardinal features of the public schools that tend toward ethical culture.

There is an ethical value in *activity*. "An idle brain is the devil's workshop" is not only a trite saying but a truism. While an active child may become a doer of evil, his chances of such outcome are not one per cent. of those of the lazy boy whose life is a ready prey for the invasions of the infesting vermin of immorality. There is hope of an active man, for activity is the essential principle of life; but the lazy man—what company is there that would insure his chances for heaven?

There is an ethical value in *order*, which is "Heaven's first law." Now this is a point of pre-eminent importance. The most expensive thing in all educational and indeed divine economy is disorder. Well does the superintendent hesitate to have his own child in a disorderly school. Why? Because disorder is immoral. Very frequently a disorderly school appears, but the cry is, "Give the teacher a chance!" Every fair-minded school executive is willing to give almost any teacher an extended chance, excepting the teacher in a disorderly school; for there is somebody else who must have a chance, and that person is the child. The loss of respect for authority, the consciousness that there is something smart in evading the teacher and in doing wrong, the encouragement to deception and dishonesty—these, and a hundred other elements in a disorderly school, make for the unmaking of character. As a parent, the educator would not let his own child live in an atmosphere of disorder; and if given opportunity as superintendent, he would not enforce upon any other person's child such unfortunate conditions. Let it be emphasized that disorder is immoral, while the opposite of such conditions tends to ethical development. Now the order which is here deemed so desirable is not the old-time dead order of inspirationless form and absolute quiet, where the normal activities of life gave place to the more important ticking of the clock, but that happy condition of vitalized workers most favorable for the performance of work. That prohibition of whispering and other arbitrary exactions are immoral is more than susceptible of proof. Order to be of ethical value must be of natural character.

Again, there is an ethical value in *habit*. It is habit that forms us, that makes us or damns us. It is not God that says "Thou shalt not be saved," but habit which renders the soul impervious to salvation. In sin, the primary effect upon the sinner is never as great as the secondary. The boy who runs away from school does wrong, but the sin he then commits is not nearly so great as the ones he will commit before the day is over. It is the mission of the school to form correct habit, to give correct thinking and the placing of one's life in conformity to that which is true and good.

There is an ethical value in *association*. I admit that association under inactive, disorderly circumstances and conditions of improper habit is immoral; but, on the other hand, the child brought up by himself is fearfully unfortunate in his moral tendencies. The highest type of manhood is not developed in the monastery, or under circumstances of riotous imagination, but face to face with the realities and temptations of life. The country boy who seems so sturdy will fall sooner than the town boy when subjected to the temptations of city life. The old-time separation of boys and girls in schools and in seminaries had its fearfully expensive results, which disappeared largely in the presence of co-education. We all need association, and in the associations of the public schools there is a purifying influence not easily estimated. True, there are parents who are reluctant to send little children to the public schools because of fear of taint; but such persons have known little of the character and possibilities of the better school. There are, no doubt, objectionable things that appear even in good schools; but compared with the things which will go wrong in model homes, it is a wonder that the superior results are so pronounced in the public schools.

Literary culture has its value in the formation of character. The analysis or framing of a pure sentence, the contact with a lofty thought, or the appreciation of a noble sentiment, all give color to the better tastes. A man cannot sing a verse of *Home, sweet home*, and at the same time commit a crime. A child cannot read the selection in his Reader, entitled "The mysterious stranger," by Jean Taylor, without being struck with man's ingratitude to God. The reading of "Black Beauty" leaves an indelible impression upon the mind and the heart. And so may be said of the entire realm of literature, and indeed of all intellectual operations. The beauties of literature proper and of choice language; the inculcation of noble sentiment; the impulse that comes from thought contact with the lives of the great and good; the philosophy of history; the eternal query in the presence of the stars, the rocks, the flowers, and lower animal life; the comprehension of the inevitable effect of a definite cause; the precision in mathematics, the absolute certainty of the old *Pons asinorum;* the influence of good music; the divinity in art; the harmony in law; the delights of creation in the shop; the good health of the gymnasium—all are rich in contribution to man's moral improvement. The dwelling of the mind upon any pure theme helps in purity of thought; and hence the subject-matter of the school-work has ethical value. The fact that a few persons who have thought mathematics, written literature, and solved scientific problems, have still become villains means nothing; for angels of light have fallen from heaven, and even a Judas went astray, although associating with the Christ.

There is an ethical value in *play.* This is not the old Puritanic idea. Far be it from the purpose of this article to cast reflection on the essence of the Puritan faith, nor is this being done; but the world has made great strides. There is no saving grace in a long face *per se.* On the other hand, a joyous spirit is one of God's best gifts. Play in children is a divine expression. The school recess has been understood to be so many minutes for pure air and for a "let-go" exercise. It should be an educational opportunity for moral development through play. There is nothing on the school premises so fruitful in demoralization as the standing around of school children, or grouping together, with nothing to do. On the other hand, play, sport, and romp, under proper direction, have inestimable value. They bring to the surface the pure joy of the inner life and bless childhood with God's best beneficence—the sunshine of his smile. It will do any older man good to stand in the presence of children and see them play—it will bring better thoughts to the hardened heart—it will do the children good upon earnest participation.

In all the particulars already specified the public schools are making character of a higher order. But there is another and even a more powerful factor in ethical training, and that is *motive;* the principle underlying action, the determinative volition that leads to formative results. This indeed belongs properly in discussion to the disciplinary factors, but it so far transcends all the rest that it is here given a major place to give greater emphasis.

The old-time idea was that the child must bring his life into conformity to requirement. Not *can*, but *must*, was the principle of action. The teacher with eyes in the back of his head was the best teacher. There was no choice, no volition, no spontaneity—all was repression and enforced obedience. It was taken for granted that the child disliked school, that the pursuit of knowledge was distasteful, and that there was no safe way for the master to maintain his place, excepting by breaking the will of disobedient pupils. Growing out of this spirit came a long line of false incentives, which for years were all-powerful in sway; and their ghosts still walk in many schoolrooms, and even in some Sabbath-schools at the present day. This reference is to rewards of merit, the keeping in at recess on so many demerit marks, prizes, percentages, honor places, discriminating rankings, and a hundred other inventions of the Evil One. The child who is taught to work for a prize, be it even in committing to memory passages of the Scriptures, is bribed, and, to that extent, corrupted. He is not taught to love truth because of its own beauty. There grows up within him, not pure love for the thing presented, but a desire for something unnatural, something selfish, something temporary. The child taught to work for a per cent. never rises higher than his motive. He may work himself to a frenzied heat in his all-pervading desire to be first or to gain a high marking; but such a student remains not a worker after such unnatural stimulus is gone. He has passed his objective; his love for work dies stillborn. Hence, all such incentives are false to the spirit of education and are immoral in their tendencies.

I have been thirty-five years in the schoolroom as pupil and teacher; have lived a good part of that time (with regret be it said) in the atmosphere of prizes and per cents.; have watched their false spur and unnatural coloring of character; have looked upon noble ambition perverted to things abnormal; have seen the physical, intellectual, and moral wreckage that ensued; and as the result of personal investigation and personal experience, I do not hesitate to pronounce the whole system of incentives, to which reference has been made, as abnormal, unprofitable, false, and immoral. Their entire tendency is to temporary result, to stifled interest, to the recognition of an unnatural means as an end, to the development of a selfish spirit, and to dishonest practice, as well as to overpressure and overnervous and physical strain.

What should be given the child in their stead? Nothing but a higher motive; and that is, to work from pure love for work and because it is right. It is false to say the pursuit of knowledge is unattractive. There is not a boy or girl in all the world who cannot be touched by the right teacher. He may be lost in the mechanical school; but, in the presence of spirit and an encouraging smile, the barren wastes of fruitless endeavor spring into vernal life, and the beginning is made for a richer realization.

The fact is, only our methods of approach are distasteful—truth is always attractive. The rich realm of learning is full of pure delight. The so-called bad boy needs someone to start the machinery of his life into operation—to find for him a field of interest and to give him inspiration. In the presence of the true teacher—not the school-keeper, but the teacher—there is the warming into life of the dormant germ of divinity, and the best of all results become possible under the influence of true motive. To think otherwise would make a skeptic of the believer in education. Interest; *interest!* What a world of possibility and delight is being unlocked by this key to the salvation of the uninterested and lost!

The public schools, under the practice of proper motive, give excellent opportunity for the cultivation of an unselfish and generous spirit. With the removal of the desire to surpass others for the bare sake of being ahead, there comes an interest in others' welfare, and cultivation is given to the true spirit of true socialism. The kindergarten has brought a rich contribution to the public schools in this particular. The Thanksgiving offering, now the happy custom of many schools, is intended least of all for the good it will do the poor, although that is considerable; but it is a means to a greater end in the education of the child.

Consideration has been given to the motive involved in *study;* let us now direct attention to the motive belonging to *government.* All true government must be self-government. There can be no such thing as substitution of endeavor or responsibility. "Self-effort alone has educational value; to direct self-effort is teaching." Even so in a school government, the *Ego* must have opportunity for determination. As already referred to, the school of the old education was all repression and authority. There was no recognition of *Will* as an immortal part of the child, appealing for education. There was no spontaneity, no choice. There might have been order of a kind, but it was enforced order. If the teacher, or even the college professor was late, the students "bolted." If the teacher was called without the door, the school was bedlam.

Not so the school of appeal to higher motive. There the thing presented is the *law*, not in its majesty, but in its *beauty.* The child is taught to realize that harmony is the sole end of all requirement. Offending, he stands in the presence of the broken law. His act has disturbed the entire relations of the school, has brought discord where should have been harmony, and in consequence others are unhappy. Sin is a heinous thing, making us unlovable and unloving. As such, and because it violates the principles of eternal right, it removes us far from the sunshine of each others' enjoyment and of God's smile. How much better it is for us to be true to our relations in the school and in God's economy! How dependent upon our individual action is the harmony of all about us, and how we contribute to the sunshine of all who know us when we are faithful to our individual responsibility!

I like the inspiration involved in the thought that the teacher expects, not forces, every child to do his duty. Such a spirit saved England in the days of Lord Nelson; raised France to her high position during the period of Napoleonic glory, when that daring leader cried out, "Men of France, the eyes of thirty centuries are looking down upon you"; and it is just as powerful as an incentive when applied to calling forth the nobler principles of the child heart. Personal responsibility belongs just as much to the child as to the maturer person. Many a man has been saved by responsibility, and so may be the case with the child.

For this reason I do not like watching children and the employment of detective characteristics. On the playground the teacher should be present, but more because of interest in the children's happiness and participation in their games. Of every child there should be expected his duty; and he should be given the utmost confidence until he proves himself unworthy; and even then he should be forgiven "until seventy times seven."

The schoolroom should be characterized by natural order and self-reliant strength. No school is ever organized for effective work until self-government is possible. The teacher's place in the room is as the inspiring dircetor of the children's endeavor; but should the teacher be called for a time from the room, the school so trained continues its perfect order. As superintendent, the writer once had a school of fifty pupils that ran itself for eleven weeks without a teacher; but, let it be said, such a condition is not the result of corporal punishment and other pernicious methods of appeal. Self-reliance, independence, and character itself come from within, not without; and never until a child is so taught to work, is he safe for the duties of life and of citizenship. There must be utilization of the will, there must be determining choice, or self-reliant, trustworthy character will not be the product of the schools. The school must be in miniature what God has made the entire world to be—a place where character is formed, not by arbitrary requirement, not by fatalism, but by responsible choice.

I have already referred to the ethical opportunities presented by association, but there is a factor not yet directly discussed, and that is the *teacher*. There are teachers, and there are others who falsely enter that holy office. It is not intended to say that all teachers who fall short of the high results described are failures. Far be it from such a conclusion, for there is many a faithful worker, doing valiant service for humanity, who stands discouraged at many an evening hour over the work of the day; but this much is implied, that the greatest teacher is the one successful as outlined. There are teachers in whose very presence is delight. The child feels the inspiration of a great life, and is influenced accordingly. Such a teacher is an effective apostle of a better living, and gives an uplift and an impulse to the student's life that cannot be measured this side of eternity. After all, it is not so much a question of the Bible in the school as it is a question of the teacher with the Bible in her heart. Such a teacher glorifies her vocation and leaves immortal impress upon all she touches.

What a glorious thing to the child to be permitted contact with such a personality—and there are many of them! Under such direction how all the world opens up with a diviner light! Duty faithfully performed in the schoolroom brings its conscious happiness. Under true motive the various departments of work assume a higher character. The true spiritual being finds expression, and all the world takes on a higher manifestation of law, of order, of beauty, and of God.

As this article was in the simmering process, I stood one day in a schoolroom, attempting to apply the ethical query to the work I saw in progress. What, after all, I thought, is the value of the schoolroom exercises in the making of character? Is it possible I overestimate the glimpses the child gets of that which is divine even in his day school work? Environed as the teacher often is by the appearance of agnostic sentiment, is there opportunity to leave with the child the realization of God, purely through the ordinary realm of school studies? As I was thus querying, I saw a little girl of eleven years busy in a language exercise. Stepping to her side, I leaned over her desk and saw these beautiful words flowing, in reproduction, from her pen:

> "God hath a presence,
>   And that you may see
> In the fold of a flower,
>   The leaf of the tree;
> In the sun of the noon-day,
>   The star of the night;
> In the storm of the darkness,
>   The rainbow of light;
> In the waves of the ocean,
>   The furrows of land;
> In the mountains of granite,
>   The atom of sand.
> Turn where ye may
>   From the sky to the sod,
> Where can ye gaze
>   That ye find not a God?"

Surely the public schools are fruitful in opportunity for character building; and bright indeed will be the crown of rejoicing of the teacher who is faithful in all the little things that go to make her work glorious. There is no vocation greater in its possibilities than that of the teacher. Eternity only will reveal the full work and bring the perfect reward of those who, through discouragement and weariness, have "built far wiser than they knew." Unseen, and perhaps unappreciated, they toil on in answer to the divine call. The little word, the kindly act, the encouraging smile, finding expression from a generous heart, like a ray of light through the window of an overfull soul, becomes the implanted germ of an ennobled life. Well may it be said of these faithful teachers—and there are many: "They that be wise shall shine as the brightness of the firmament; and they that turn many to righteousness, as the stars forever and ever."

PRESTON W. SEARCH

LOS ANGELES, CALIF.

IV

INTEREST: SOME OBJECTIONS TO IT

There is a restlessness among thoughtful teachers at present in regard to the subject of interest; they are alarmed lest the advocates of Herbartian pedagogy may exhibit extreme rashness on this important subject and thus seriously injure the cause of education. Dr. Harris is one of this uneasy number, having sounded the alarm at the Cleveland meeting of the Department of Superintendence in February last. He there called attention to the Herbartian doctrine that interest arouses desires, desires lead to determinations, and determinations result in deeds; and complained that such doctrine must be radically false, since it made no provision for a transcendental will. So far as replies to this charge have been given, they indicate that the Herbartians, while greatly interested in the discussion of transcendental will, regard the problem as belonging rather to metaphysics than to pedagogy. In their opinion daily experience teaches that interest does awaken desires and that desires affect volition; and that is enough for the teacher, for he sees in these facts an important approach to conduct. However, in reply to this sound of alarm, it may be said that, if a transcendental will is one that is absolutely free, or one that is entirely lifted above the influence of desire in making choice, then education is comparatively valueless, for it can find no purchase upon such a will. But if the transcendental will is one that is influenced by desire in making choice, one can believe in it heartily and still accept the above-mentioned Herbartian doctrine, for it is known that desire has its origin in interest.

But the general unrest in regard to interest has not been caused alone by Dr. Harris. There are many others who are afraid of interest; who regard the stress now laid upon it as dangerous to several of the most valuable qualities in good character. In order that some of these threatened dangers may be discussed, it is necessary, first, to show to what extent emphasis is now laid upon this subject, with reasons for the same. I shall, accordingly, first present the present standpoint with brief arguments in its favor, and then discuss some of the most serious objections to it.

Interest has been considered a matter of importance from the time of the Greek philosophers down to the present. Plato advised that one "Use no violence toward children; the rather cause them to learn while playing"; and Herbert Spencer declares that, "As a final test by which to judge any plan of culture should come the question: 'Does it create a pleasurable excitement in the pupils?'" It is generally understood to-day that one of the best tests of instruction is the degree of interest in it manifested by the children. Where, then, is there anything new in all of this talk about interest? The new standpoint does not deny this old and common view, but is new in the emphasis laid upon it. That standpoint declares that interest in the subject-matter of instruction is the *sole* condition under which it can be properly acquired. Indeed, it goes even further than that; it gives to interest the rank that has been usually ascribed to knowledge. The common understanding has been that instruction is aiming at knowledge, and that interest is one of the means by which that aim can be best attained; in brief, knowledge is the end and interest is the means. But the new standpoint asserts interest to be the highest aim of instruction, and ideas to be the means by which that object can be reached; that is, interest is the end and knowledge is the means. Thus the tables have been turned. There is now a strong inclination on the part of many to measure the success of years of teaching not by the quantity of information one possesses on Commencement Day, but by the degree of interest engendered in the lines of study followed. The attitude of mind toward study is, to them, the most important point.

The kindergarten presents the practice of this theory most plainly. The kindergartner is conscious that the development of right tastes is her chief mission and that facts are merely the means to that end. Consequently, as time passes, the test of her progress is found in the extent to which her children have grown in their love for God, for people, for nature, and for the beautiful. Herbart takes the same stand as Froebel by declaring that the development of a permanent, many-sided interest is the teacher's goal—an interest in the same fields of thought as those just mentioned. If this view is correct, it is far-reaching in its effect. It applies as well to the high school, college, and university as to the kindergarten and common school. A love of any sphere of thought means a receptive mind in regard to that sphere; it is, therefore, a guarantee of growth. The young physician who has a love for medicine promises success. Such love means much more than a goodly store of medical knowledge, because the former includes the latter and much more besides. The surest guarantee of successful teaching is love for that work, and both normal schools and schools of pedagogy can much better fix deep interest in that work as their highest immediate aim than knowledge about it.

Interest is the very source of mental life. Whatever one has grown to love, returns involuntarily, and often, to his consciousness. Thus thoughtfulness is produced. Next to being good, one should be thoughtful. But this thoughtfulness means the digesting of the present store of knowledge and its increase. Whatever is turned over in one's mind from time to time, being viewed in one light and then another, comes to be thoroughly mastered; thus the proper quantity and thoroughness of knowledge are cared for. Memory, too, is involved in interest, for that which is of genuine interest is often reviewed, and, in consequence, retained in mind. Further than that, whatever has become attractive is carefully noticed; thus the habit of observation, instead of being chiefly dependent upon the development of some formal power, is determined by interest. When, finally, we recall the fact that interest leads to desire and that desire greatly affects volition, we are ready for the important conclusion that *interest is the great condition* under which the chief benefits of instruction can be enjoyed;

consequently it is the teacher's goal; if the right kind of interest is excited, the other great objects of instruction necessarily follow. Not only do such educators as Froebel and Herbart represent this view, but the classic dramatists and novelists practically take the same stand. Shakspere and Dickens could have made clear the underlying truths in any of their works by a few pages presented in the form of an essay. But they were not aiming at clearness alone; they seemed to recognize that comprehension of a topic may exist without appreciation of it, and that permanent influence is conditioned by permanent interest. Accordingly they set to work to arouse this interest by an attractive narrative.

In taking this stand these educators show no tendency toward neglect of knowledge and toward superficiality. They recognize that facts are the foundation upon which they build. These facts must be very clear, otherwise they could not be expected to have the desired effect. Undigested, hazy notions, memorized words alone, do not excite deep interest. It is based, first of all, upon clear ideas. Hence, when one fixes interest as his chief aim in instruction, it does not mean that he is merely intending to amuse or entertain his children, or be satisfied with only partial mastery of notions offered; it means, in the first place, that he will select the subject-matter to be presented with careful reference to the learners, and, second, that he will present it so as to fit it as closely as possible to their past experience, in order that they may feel genuine appreciation of it. Interest as an aim, then, signifies caution and earnestness on the part of the teacher instead of carelessness and insincerity; it demands that he be a skilled instructor and not alone a pleasant person.

I have now stated, in brief, the Herbartian standpoint in regard to interest, with the commonly given reasons for the same. It is opposed to some quite prevalent views; consequently, there are several objections worthy of careful consideration. Those presented will be found to include one another to some extent, but, since they often appear in the exact form given, they will be treated independently.

First, might not work be made too easy if people became really interested in all of their tasks? Interest would make it easy in a certain sense, but never too easy, for work cannot be made too easy. Work is simply energy directed toward an end. If the expenditure of such energy is unpleasant, the work is called drudgery; if pleasant, it may become play. The difference, then, between work and play is entirely subjective. It does not destroy the value of a piece of work because one loves it; on the contrary, it is then likely to be done better and more quickly; it is said, certainly with truth, that no one ever made marked progress in a study that he detested, or rose high in a profession that he never enjoyed. Deep interest, then, leads to greater happiness as well as to a greater quantity and better quality of work. There is abundant reason, therefore, for converting as much drudgery into play as possible.

But, it may be asked, what provision is made for the development of the sense of duty, when we plan to make children interested in all the things that it is their duty to do? This question is put with the presupposition that interest and duty are opposed to each other. But is that the case? One's duty is the course of conduct that he is morally bound to follow. His sense of duty is the degree of appreciation that he feels for that course. If it appeals to him strongly, so that he feels under great obligations to pursue it, he is said to have a high sense of duty, or even a love for it. Love and duty are often opposed to each other; that is, we often love the course that should not be pursued and hate the plain path that ought to be followed. But the two are not necessarily opposed. Unless we believe in total depravity, some of our desires are good, and, just as there may be a strong hatred of duty, so there may be the opposite strong feeling of love for it. So sense of duty, and interest, or love, are not mutually exclusive; we can be interested in, and even love, our duty. This is plainly true if, in place of the abstract term *duty*, we take an individual instance of it. Everyone should love his country. Many respond to that duty with genuine pleasure; *i. e.*, duty and love are there in full harmony.

The fault with people is that such harmony is often lacking; they have too often developed an interest in and love for wrong things. It is the province of the school to correct this evil, by beginning early to develop interest in right lines, in high ideals. In so doing, it is favoring the development of a sense of duty. Interest leads to desire, and the desire to follow the path of duty simply has its origin in an interest of a high order.

As said at the beginning of this paper, if the will were transcendental in the extreme sense—*i. e.*, if it were fully independent of all interests in the choice and performance of duties—the best instruction would not necessarily have any influence upon one's performance of duty. But very few persons, if any, believe that to be the case. While the will enjoys freedom of choice, this freedom is not absolute, but is limited to the desires that have been awakened. Of conflicting desires it is possible for the will to choose those of the higher order. The relative intensity of these desires is, however, certainly a factor in this choice. Now since the scope, quality, and intensity of desire may be greatly affected by instruction, it is possible for the educator to exert a marked influence upon the will, and hence upon character. The ideal character is approached as the friction between desire and actual duty is diminished; and the school, in awakening right desires through interest, is causing such an approach. It is true that history furnishes abundant supposed examples of duty and interest in direct conflict with each other. The monks of the Middle Ages scourged themselves and underwent innumerable tortures, in order to subject interest and desire to duty. But in so doing they were still following desire, for it was in the hope of escaping future punishment and enjoying eternal bliss that they subjected themselves to such barbarous treatment. Their fear on the one hand, and their hope or desire on the other, being intense, their volition and conduct were greatly affected.

Just how school instruction can through interest engender a sense of duty may be plainly seen, if a concrete example is taken. The study of Washington at Valley Forge acquaints the scholar with a remarkable instance of perseverance. Knowledge of the facts, if approached rightly and comprehended clearly, awakens a feeling of interest in the man that amounts even to admiration. But we are so constituted that, with the admiration for moral qualities, comes the demand that we exhibit such qualities ourselves. In this case, then, we are made to feel under obligations to be more persevering. Perhaps we have had that feeling before, but now it is repeated. In this way instruction can, by arousing genuine interest, give exercise in the feeling of obligation to do right; that means the development of a sense of duty. The study of the great men in history and of the ideals of literature is continually furnishing practice for the feeling of approval or condemnation, and the accompanying one of obligation to imitate or shun the same kind of action. The sense of duty is, therefore, not only not opposed to interest, but it is developed through interest.

In spite of the argument just presented the suspicion is likely to be harbored that, to the extent that one is guided by his interest, he is threatened with selfishness. In this connection it is necessary to call to mind the fact that there are two kinds of interest; each awakens desires, but the one, being unselfish, is the source of unselfish desires, while the other, centering the attention upon self, leads to selfish longings.

The student devoted to science, first of all for its own sake, rather than owing to any particular advantage it may bring, furnishes an example of the former kind; he who, like the Jesuit scholar, is interested in study with the primary object of surpassing rivals and of winning a prize, affords an example of the latter sort. It is scarcely necessary to remark that it is mainly the former that should be cultivated. When the thing contemplated is right in itself and the interest is direct, it is not likely that selfish desires will result. The philanthropist's love of mankind is not selfishness. It is important that these two kinds of interest be clearly distinguished from each other. The scientist's interest in nature, while leading to desire and being the source of much energy, is quieting rather than disquieting in its effect. It lays emphasis upon the possession already present; the flower in the hand is beautiful and enjoyable in itself; hence there is no tendency toward impatience or worry, but a feeling of contentment and satisfaction pervades the mind. Also it is not inconstant or wavering; depending upon no ulterior result, but being a direct attraction for the object itself, it is ever present. Even when obstacles are encountered—as they must be in pursuing any, even the favorite, fields of thought—they are not likely to cause vexation and disappointment, but are met and overcome with much the same energy and enjoyment as the difficulties upon a pleasure excursion. Not so with the other, the selfish, interest. Instead of calling one's thought away from self and being thus altruistic in its tendency, it emphasizes self and is concerned with personal aggrandizement. As to possessions, the accent falls upon what is lacking, rather than upon what is already secured. There is a consequent longing for possession akin to covetousness, and hence a feeling of unrest, impatience, and discontent. Obstacles are recognized as such, and increase the disquiet. Also there is no assured permanency in the desires awakened; as soon as the ulterior purpose, upon which they are dependent, is attained, they cease to exist. It is evident that this latter kind of interest is injurious in its effects, while the former, being an attraction to objects for their own sake, calls attention away from self and exerts a strong moral influence. The desires that spring from it, instead of leading to extreme selfishness, are synonymous with unselfishness; hence, one may be guided by such interest with entire safety.

Thus far the conclusion has been reached that, when a deep, permanent interest is accepted as the teacher's aim, there is no danger of making work too easy, of neglecting the sense of duty, or of engendering a spirit of selfishness. An objection comes now in another form. Since all drudgery can never be eliminated from life, since in fact each individual must have a considerable quantity of it, are we not failing to prepare for it by allowing the cultivation of interest to be our object? It is granted that the child will do those things that he is interested in; but what will lead him to do those things that he is not interested in? Experience immediately offers a partial answer. Good teachers are continually endeavoring to discover the line of natural interest in the dull pupil. One reason for having so many studies is that each child may be approached from many sides, so that native tastes or strong points may be revealed. Many boys show an aptitude for manual training who are indifferent or hostile to other school work. With such it is often the interest in this one line that makes school bearable. It begets for them some momentum for overcoming the other tasks that are mere drudgery. A universal truth is here involved. Superabundance of drudgery makes life scarcely endurable. But when a strong interest has been aroused in a part of one's necessary work, he is made brighter and happier; interest gives a buoyancy and elasticity that make one disposed to undertake duties that are naturally distasteful. Thus, instead of unfitting one for drudgery, interest is an excellent preparation for it. This admission may be made and the question still be raised, Is not the actual performance of drudgery the best preparation for and guarantee of its future performance? Does not practice in any line engender the habit of doing work along that line? Certainly practice always tends toward habit or automatism. But man is not mainly a machine; at least, when it comes to drudgery, he is very much inclined to act from motive, not unconsciously. The repetition of an act may diminish rather than increase that motive. For instance, the repeated marking of examination papers does not usually make it easier to approach a new set of papers. On the contrary, the motive for not doing such work often far outstrips in growth the cumulative effect of the repetition of the act. Daily attendance at school and daily study tend toward corresponding habits. But in the case of many a schoolboy the distaste for study so far overcomes the force of habit that it finally culminates in the refusal to attend school longer. Thus, whatever is really drudgery may grow more and more irksome, rather than less so; hence it is very unsafe to depend upon performance of drudgery as the fittest preparation for its future performance. The old idea of formal discipline affects our attitude toward this question. We are inclined to develop the faculty or the formal power of drudgery through exercise, as we would the formal power of memory, of imagination, etc. But since it is pretty well established that there are no formal powers either of memory, of imagination, or of drudgery, it is not probable that they can be developed.

It should be remembered that motive cannot be eliminated from drudgery, and that the way to prepare for the latter is to develop, not a formal power, but a strong motive. Motive has its origin in interest. Hence, so far as instruction is concerned, the chief preparation for drudgery that the teacher can give is a strong and many-sided interest.

As I understand it, the emphasis laid upon interest in this paper is in accordance with Herbart and Ziller. But the standpoint should gain ground or lose it, not because their names are associated with it, but because it appeals, or fails to appeal, to experience and reason. The tendencies of the past are opposed to it; the inherited feeling is very common that that being is most to be admired who hates a good portion of his duty and still performs it. We are almost afraid to declare that the ideal education is that in which a deep love is engendered for the chief spheres of knowledge and for right conduct. But some assurance as to the soundness of this view is found in the fact that the child's attitude toward his teachers has already undergone somewhat the same transformation as is now insisted upon in his attitude toward his studies. In Xenophon's time it was the understanding that children should regard their teacher as their enemy. In the *Anabasis*, book ii. chap. vi. 15, Clearchus is described as one who "had nothing attractive in him, but was always forbidding and repulsive, so that soldiers felt toward him as boys toward their master." Until recent times the teacher was a whipping master, whether he was an instructor or not. To-day, in Germany, mutual affection between teacher and pupil is not usually planned for by the former; he seems to labor under the conviction that his personal influence is greatest when he is stern and distant. The relation of officers in the army to the common soldiers is to a considerable extent the relation of German teachers to their scholars. But in America nothing is now better established than that close mutual friendship between the two is the first condition of a strong influence from the one upon the other. Now, there are two great means by which the aim of the school may be reached; *i. e.*, the personal influence of the teacher, and the studies. If we have changed our estimate of the condition under which the former can prove most effective, and are now convinced that children must love their teachers in order to receive the greatest influence from them, there are the same reasons for declaring the necessity of deep interest in, or love for, the studies in order that these latter may result in the greatest good.

The fixing of interest as the highest immediate aim of instruction in no sense precludes the exercise of authority over pupils and the development of a spirit of obedience on their part. The desired deep interest in studies and in moral notions comes only gradually through instruction. Firm control on the part of the teacher is the first external condition under which that interest can grow rapidly and become permanent. Even carefully chosen subject-matter, that is skillfully presented, often fails of itself to preserve order and to hold the attention. Authority should then be vigorously exercised, for, if it is omitted, the children, being controlled by caprice, become unmanageable both morally and mentally. But as right interests and right habits develop, the exercise of authority becomes less necessary and may finally cease. Interest and authority are not, then, mutually opposed, but are supplements of each other.

FRANK M. MCMURRY

SCHOOL OF PEDAGOGY,
BUFFALO, N. Y.

The Herbartian doctrine of Interest was also discussed by Dr. W. T. Harris in the EDUCATIONAL REVIEW for June, 1895.

THE FUTURE OF THE HIGH SCHOOL

I THE HIGH SCHOOL AS AN EDUCATIONAL TYPE

The characteristics of the high school, in its present stage of development, may be concisely stated as follows:

First, it is supported by taxation, mainly local, with some help from "national and State appropriations of land and money."

Second, its advantages are free to students who live within the limits of local taxation; a small charge for tuition is ordinarily made to those whose residence is outside these limits.

Third, its course of study is so shaped as to join on to that of the lower schools.

Fourth, its advantages are offered to students without distinction of sex; the few instances in which boys and girls receive their high-school training separately are sporadic variations without influence upon the type.

The functions of the high school have varied somewhat according to conditions. The main functions, excluding that which is accidental and local, are seen to be three in number:

First, to carry further in their studies those pupils who have the ability and the inclination to pass beyond the course of the elementary school, but have no intention of going to the university.

Second, to prepare for their higher work those who wish to pursue advanced studies.

Third, to provide, for those who desire to give instruction in the lower schools, a certain amount and kind of preparation for teaching.

The first of the functions named is everywhere regarded as essential; the other two are generally considered natural and legitimate. With reference to the last, there is a noteworthy statement in the *Report of the Committee of Fifteen* which may serve to indicate the direction of present tendencies.[1]

"It is a widely prevalent doctrine," says the sub-committee on the training of teachers, "to which the customs of our best schools conform, that teachers of elementary schools should have a secondary or high-school education, and that teachers of high schools should have a collegiate education. Your committee believe that these are the minimum acquirements that can generally be accepted; that the scholarship, culture, and power gained by four years of study in advance of the pupils are not too much to be rightfully demanded; and that, as a rule, no one ought to become a teacher who has not the age and attainments presupposed in the possession of a high-school diploma."

From every point of view the high school is, in the proper sense of the term, "the people's college." The great majority of those who have the advantages of its instruction never enter the university, but go from its doors directly into the walks of life. But nothing could be more unsound or pernicious than the current maxim, which for many minds sums up the *raison d'être* of the high school, that it "fits for practical life while the university fits for the professions." While the aim of all true education is to fit for life, to make men more perfect along the various lines of development, and hence more useful and more happy, the complex social and economic conditions of to-day put a premium upon special attainments, upon the ability to do a particular thing in the best possible way. The elementary school drills the rank and file; the university develops the higher officers, the generals and captains; the high school trains the intermediate leaders, the sergeants and corporals and those in charge of the commissariat. Under present conditions there is not the remotest danger that the number of the educated will become too great for our needs. In the competition of life the highest education gives to the man who has it just as great an advantage over the man who has only intermediate training as the latter has over him whose book-lessons ended with the elementary school.

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[1] EDUCATIONAL REVIEW, March, 1895, pp. 209–210.

II THE PERMANENCY OF THE HIGH SCHOOL

The American high school differs in important particulars from the types of secondary education which we are wont to regard as permanently fixed in the better educational systems of Europe. The most striking differences are these: the high school is local in direction and administration, not being subject to a central governmental authority; it permits to the student a far wider choice of studies than the Gymnasium and the Realschule, for example, or the Lycée; and it gives to girls the same opportunities as to boys. Among other points of difference is one that is accidental rather than essential: that in the high school the main studies are pursued for a shorter length of time, and are as a rule less thoroughly taught, than in the foreign schools. The recognition of these features as distinctive of the high school, and other obvious considerations, inevitably press home the question: Has the high school come to stay? Or is it a transitional form, which, instead of adjusting itself to new conditions, will gradually decline and give place to another type?

At this late day it ought not to be necessary to justify the existence of the high school on constitutional grounds. Yet the American people are not all able to perceive the truth plainly in this regard, and not a year passes that the right to levy taxes for the support of the high school goes unchallenged. From the very beginning of our civic life, the maintenance of secondary schools has not merely been granted as a privilege to local authorities, but has even, in conspicuous instances, been made mandatory. Lord Macaulay well said in Parliament: "Illustrious forever in history were the founders of the Commonwealth of Massachusetts; though their love of freedom of conscience was illimitable and indestructible, they could see nothing servile or degrading in the principle that the State should take upon itself the charge of the education of the people." Not to quote at length the text of the Massachusetts ordinance of 1642, to which Macaulay referred, or the supplementary ordinance of 1647, which may be called the Magna Charta of our secondary education, we may safely accept the summary of both given by the editor of the *Public statutes of Massachusetts relating to Public Instruction.*[2] He says, "The act of 1642 enjoined upon the municipal authorities the duty of making education universal, but not necessarily free. The act of 1647 made the support of public schools compulsory, and education universal and free. As this was the first law of the kind ever passed by any community of persons or by any State, Massachusetts may claim the honor of having originated the free public school. At this time it was ordered that every town of one hundred families, in addition to its elementary schools, should establish and maintain a grammar school which should fit pupils for the university at Cambridge."

It is not necessary to follow historically the recognition of the high school, under whatever name, in American legislation. Principal Boone says in his *Education in the United States*, published in 1889 (p. 340), that, "Of the thirty-eight State Constitutions, twenty-two specify high schools as an object of legislative and general interest; three others direct a 'general, suitable, and efficient system,' which shall be gratuitously open to all children between six and twenty-one years of age; and one, 'such grades of schools as are for the public good.'" Since 1889, as he lately informed me, the high school has received recognition in two other State constitutions. But in States where provision has been made for the high school by special enactment, its legal foundation is equally secure, because sustained by a long line of judicial decisions which, on the one hand, have tended to give a legal status to the high school as an organic part of the common-school system, and on the other, rising superior to legal technicalities, have distinctly favored the high school on the ground of public utility.

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[2] With annotations and explanations including the laws in force June, 1892. Boston, 1892, p. 6.

Among the most noteworthy of these decisions is that rendered by the Hon. Thomas M. Cooley, when Justice of the Supreme Court of Michigan, in 1874. The bill in the case was filed by Charles E. Stuart and others at Kalamazoo "to restrain the collection of such portion of the school taxes assessed against complainants for the year 1872, as have been voted for the support of the high school in that village, and for the payment of the salary of the superintendent." In the lower court the complainants had suffered defeat, and Judge Cooley, affirming the previous decree, discussed at length and in a masterly way the foundation and status of the high school. One section of the decision[3] deserves to be quoted, because it meets, from the point of view of one of the first of American jurists, the chief objection ever raised against the high school.

The argument is, he says, "that there is no authority in this State to make the high schools free by taxation levied on the people at large; . . . that while there may be no constitutional provision expressly prohibiting such taxation, the general course of legislation in the State and the general understanding of the people have been such as to require us to regard the instruction in the classics and in living modern languages in these schools as in the nature not of practical and therefore necessary instruction for the benefit of the people at large, but rather as accomplishments for the few, to be sought after in the main by those best able to pay for them, and to be paid for by those who seek them, and not by general tax; . . . and that this higher learning of itself, when supplied by the State, is so far a matter of private concern to those who receive it that the courts ought to declare it incompetent to supply it wholly at the public expense." "When this doctrine was broached to us," he continues, "we must confess to no little surprise that the legislation and policy of our State were appealed to against the right of the State to furnish a liberal education to the youth of the State in schools brought within the reach of all classes. We supposed it had always been understood in this

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[3] *Michigan Law Reports*, vol. xxx. p. 75.

State that education, not merely in the rudiments, but in an enlarged sense, was regarded as an important practical advantage to be supplied at their option to rich and poor alike, and not as something pertaining merely to culture and accomplishment to be brought, as such, within the reach of those whose accumulated wealth enabled them to pay for it."

Then follows a careful analysis of school legislation in Michigan, and of public policy regarding schools, from the beginning. The conclusion is emphatic: "If these facts do not demonstrate clearly and conclusively a general State policy, beginning in 1817 and continuing until after the adoption of the present Constitution, in the direction of free schools in which education, and at their option the elements of classical education, might be brought within the reach of all the children of the State, then, as it seems to us, nothing can demonstrate it. . . Neither in our State policy, in our constitution, or in our laws, do we find the primary school districts restricted in the branches of knowledge which their officers may cause to be taught, or the grade of instruction that may be given, if their voters consent in regular form to bear the expense and raise the taxes for the purpose."

A decision hardly less important was that of the Supreme Court of Illinois, in a case testing the validity of the familiar law establishing township high schools, which had been assailed as inconsistent with the provisions of the State Constitution for the maintenance of common schools.[4] The court decided that a high school "is certainly a free school within the meaning of the Constitution. That free schools may be graded and classified so that scholars that may be more advanced in their studies may not be hindered or delayed in the progress of their studies by others less advanced, would seem to be within the spirit of the Constitution, that contemplates the creation of a thorough and efficient system of free schools. That one school may be denominated a high school, and another in the same township a district school, cannot affect the question in the least." This interpretation of the law is affirmed, after an extended review of the subject, in a decision rendered in 1881.[5] The attitude of judges in equity toward the high school is well illustrated further by a recent decision of the Supreme Court of Wisconsin, at the August term, 1893, which, admitting freely that the statutory free high-school system of Wisconsin "is crude, deficient, and complicated," nevertheless, among other important rulings, laid down the principle that "The board of a free high-school district may institute a proceeding by *mandamus* to compel the levy and collection of a tax for the support of the school."[6]

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[4] *Illinois Law Reports*, vol. xcii. p. 617.

But in America the people make their own constitutions, and choose their own judges. Why may they not, influenced by fallacious arguments, rise and sweep the high school out of existence by removing its means of support? Certainly they may, but they will not. The high school is safe, because it rests upon something more fundamental than constitutional and judicial recognition; it rests upon the deep-seated conviction of the American people that all should have a chance in the world; that thus the blessings of educational opportunity should be extended to the poor as well as to the rich; that the perpetuation of our form of government, with all that we hold dear, must depend upon the extent to which it can utilize the best talents available, without regard to class distinctions, and that therefore all who manifest an aptitude for more than elementary training should receive it, if they wish, at public expense. "In the Mexican War," says Professor Holden, "our armies were officered by graduates (of West Point), and were opposed by a hostile force quadruple their own. In a little over a year they had fought and won thirty battles, taken a thousand cannon, carried ten fortified places, and completed the conquest of Mexico and California. General Scott has said: 'I give it as my fixed opinion that, but for our graduated cadets, the war between the United States and Mexico might, and probably would, have lasted some four or five years, with, in its first half, more defeats

[5] Ibid., vol. xcvii. p. 375–89.

[6] *Wisconsin Law Reports*, vol. lxxxvi. pp. 563, 566.

than victories falling to our share; whereas, in less than two campaigns, we conquered a great country and a peace, without the loss of a single battle or skirmish.' "[7]

Did not West Point, in this brief war, repay all expenditures made for it more than a hundred-fold? In like manner, in civil life, those who have been trained with the help of great endowments or at public expense are rendering back to society, in a thousand different ways, countless times what society, by direct contributions or through taxation, expended on them. These things are well understood by the more intelligent; as time goes on, the outcry of misguided political agitators and short-sighted tax-payers against the high school will make less and less impression upon enlightened public opinion.

In taking account of those tendencies that affect the stability of the high school one aspect of the case is often overlooked: Men have not generally perceived that the homogeneity, the uniformity of our national development, will depend not more upon the interchange of political views and the correlation of commercial interests than upon the maintenance of some common educational unit, which shall have substantially the same value in all parts. The elementary public school cannot meet this demand, for it does not go far enough; neither can private generosity and enterprise. Much as may be said in praise of the academies and private schools and the small colleges, they cannot well maintain a common standard of attainment, for they are founded with different aims and are often so circumscribed by conditions that they will never have an untrammeled growth; further than that, private beneficence is too spasmodic; it never has covered, and probably under no circumstances ever would cover, an entire field evenly with institutions. So far as we can yet discover, the high school is the only educational institution above elementary grade that may reasonably be expected to plant itself in every aggregation of people above a few hundred and at the same time everywhere attain to a certain uniformity of efficiency and excellence.

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[7] *Report of the Commissioner of Education*, 1891–92, p. 773.

The importance of high schools, as centers of local educational inspiration and opportunity, cannot be too much emphasized. Mr. Talcott Williams of the Philadelphia *Press* has recently published some interesting figures regarding the student attendance at 46 colleges.[8] In 1868 these 46 colleges had 4779 students, of whom 2025, or 42.21 per cent., came from within a radius of 25 miles. A quarter-century later, in 1893, they had 9402 students, or double the earlier number; of these, 3983, or 43.42 per cent., came from within a radius of 25 miles. "Is it not perfectly clear," says Mr. Williams, after an array of statistics as striking as they are unimpeachable, "that the attendance on detached colleges must be created by their presence and would not exist without them?" What is true of the college in creating that which he aptly calls "a college appetite," holds good to a degree of every strong high school, which stirs to the acquiring of an education many—not only in the municipality or township in which it is situated, but in the region roundabout on all sides—who, without it, would have had no thirst for higher knowledge or have felt unable to go far from home to attend school.

Time does not permit me to discuss with fuller detail the adaptation of the high school as an educational type to its environment. But this is evident: that the high school is gaining upon its competitors in the same field and is destined to last, on the principle of "the survival of the fittest." The contest has been most marked in parts of New England, particularly Massachusetts, where, as a consequence of historical development which need not be traced here, the academy, often endowed, and the private school, held the field of secondary education for several decades and rendered a service to the country the value of which no man can reckon. If we examine the original design of the "old academies," as they are called, we are at once struck with their similarity in aim and function to the high school of to-day. In the *New Englander* for January, 1885, Nathan Allen wrote (p. 106): "These academies were to be open to all classes—alike to the rich and the poor, without distinction shown to rank, race, or sect. Young men were to be thoroughly fitted in these academies for the college or university, and others in the higher English branches for teachers or departments of business. These academies came in between the university and the common or grammar schools, making virtually a college for the middling class of people. It was intended that they should be scattered in every county throughout the whole State. . . From 1780 to 1800 there were fourteen academies incorporated, and from that date to 1850, almost one hundred more were incorporated, being located in all parts of the State." The fate of these institutions as a class, and the transformation of those that remain, is stated in strong terms by Supervisor Martin of Boston in his recent volume on the *Evolution of the Massachusetts public school system* (p. 200): "It was inevitable that the high school should, from the outset, come into competition with the ancient academy and the private school. . . The academies gradually weakened; most of them dragged out a lingering existence for a longer or shorter time, and finally gave up the struggle. A few of the stronger ones, becoming sharply specialized as fitting schools and feeders of denominational colleges, remain, but their ancient occupation is gone. They no longer take the boys and girls fresh from rural homes and district schools, with awkward manners and homespun clothes, and give them glimpses of the broader world of men and books—a world else all unknown. Now, many of the students come from homes of wealth—most often new-made wealth. They come from parents who love not learning more, but exclusiveness." This struggle for supremacy, as it went on in New England, is generally unfamiliar to the West, because from the beginning the high school in the Western States has for the most part had no serious rival, and has had a free development. If you were to ask me what high schools show the nearest approach to the type that is to be, I should point to those in certain cities of Illinois and Michigan, with Chicago, in this as in many other things, at the head. The endowed academy and the private secondary school will, under certain conditions, always flourish and have a mission of usefulness; but the permanency of the high school, as our national type of secondary education, is assured.

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[8] *Proceedings of the Second Annual Convention of the Association of Colleges and Preparatory Schools in the Middle States and Maryland*, November 30, and December 1, 1894, pp. 111, 114.

III. THE STUDIES OF THE HIGH SCHOOL

What should be the aim of high-school instruction? The answer to this question involves an examination into the mental states and needs of the young in the period in which the high-school education falls. Probably no better statement of the case has ever been made than that recently by Professor Hanus. "The stage of primary or elementary education," he says,[9] "may appropriately be called the stage of nutrition. The mind of the child is to be opened, and the world is to be let in. . . As yet, the mind of the child has only been aroused. It has been touched by life in its manifold forms, and it thrills and pulsates with its own awakening." The next stage, that of secondary education, witnesses the emergence of the child into later childhood and youth, and lasts, say from the pupil's eleventh or twelfth to his eighteenth or twentieth year." "During this period there is laid upon the teacher . . . the difficult task of *wisely using the course of study as a means of discovering the pupil and leading him to self-revelation.*" In other words, the high school, taking the child to whose soul nature and life are still something wonderful and bright,—a child full of interest in all possible things and a creature of impulse rather than of reason,—should transform him into a youth of high ideals, of earnest purposes, of serious outlook upon life, and of such self-mastery and power to bring things to pass that whether he continue in his studies or become at once a breadwinner, he will be, to the full measure of his capacity and training, a *man*—a leader of those less fortunate.

Such being the conditions and the purpose of the work, while we concede that all branches of knowledge become disciplinary and informing when properly taught, the studies best fitted for high-school instruction may be roughly classed in three groups, according to the predominant or characteristic contribution which they severally make to the desired results:

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[9] *School Review*, 1895, pp. 199, 201, 204.

First, studies pursued chiefly for discipline.

Second, studies pursued chiefly for information.

Third, studies pursued both for information and for ethical suggestion, or ethical inspiration; studies the pursuit of which has a bearing on conduct by clarifying conceptions of man's relations to man and by furnishing moral ideals.

In the first class are algebra, geometry, and trigonometry, the disciplinary value of which cannot be too highly rated, though what men call the "practical" benefits of mathematical studies are, in popular opinion, strangely and persistently overestimated. To the second group belong most of the sciences, as biology, chemistry, geology, and astronomy, by means of which the mind is made familiar with its environment and expanded by the knowledge of nature, both organic and inorganic. The subject of physics stands by itself as not only informing, but also, in a singular degree, disciplinary. I have heard Professor Hinsdale say that among the studies pursued in the high-school period there are three that above all others "give a boy a realizing sense of his infirmities; namely, Latin, mathematics, and physics." How idle is much of this finedrawn discussion about educational values, when we all know that certain subjects are better calculated than others to hold a boy down to his task, strengthen his mental fiber, and at the same time broaden his outlook! To the third class must be assigned the study of the languages, of history, and of the more concrete forms of art. In this group the study of our own language and literature holds a unique place; and while the study of English is justly regarded as indispensable, when properly taught, no study is more fruitful.

It is as clear from the present drift of things, as it is on pedagogical grounds, that the high school will be called upon to make generous provision for studies in each of the groups mentioned; it is also plain that relatively fewer subjects will be crowded into the same length of time than now, and that in consequence a greater amount of time relatively will be given to each study. Instead of three successive terms in three subjects, for example, a whole year will more often be devoted to one. But a considerable freedom of choice should and will remain. No greater mistake could be made than to force upon our secondary education the inflexibility of the Gymnasium and Realschule to which I have referred. It is no exaggeration to say that at present the number of graduates (if I may so term them) from the Gymnasium each year is determined in accordance with the law of the "survival of the fittest," while the graduating class of the high school embraces all who can possibly "get through." In the former the student is forced, is driven through his work, with an abnormal number of recitations per week, and the hand of the teacher over him in his own home as well as at school, while those who cannot endure the strain are dropped; in the high school, the student often has an abnormal freedom in the choice of studies, and only those fall by the wayside who cannot somehow be carried along. In a democratic country, if the teacher must adopt one policy or the other, the latter is safer, as it is more human; but the golden mean will lie between the two extremes. A reasonable amount of flexibility in school programmes, whether it goes under the name of separate courses or of electives within the range of a single course, is to be encouraged; but the conditions of choice should never be left unrestricted to the extent that the individual taste may be gratified at the expense of symmetry or soundness of training.

But though no single course, or even two so-called courses, can be laid down for the high school, we are not without indications with reference to the groups of studies which will be most emphasized. It is safe to say, first, that the amount of time given to foreign languages, together with English and history, will be absolutely greater than in any of our present high schools, and relatively greater than in many of them. Already the modern languages are taught to an extent not contemplated a few years ago, and the present drift is decidedly in the direction of the classics, as regards both an extension of the time given to them and the study of Latin and Greek by relatively larger numbers of students. Of the several classes of data which might be brought forward to sustain this statement, I can here note but one, the fact that institutions of technical instruction are now requiring from candidates for admission, or recommending to them, some knowledge of at least one of the classical languages. The Massachusetts Institute of Technology was founded, as stated in the charter, with the design of building up "an institute of technology and a school of industrial science." In the statement of requirements for admission is the following paragraph:

"A knowledge of the Latin language is not required for admission, but the study of Latin is strongly recommended to persons who purpose to enter the Institute, as it gives a better understanding of the various terms used in science, and greatly facilitates the acquisition of the modern languages."

Principal MacKenzie remarks that "At the Sheffield Scientific School, from a merely nominal requirement of Latin for entrance twenty-five years ago, there has been a steady increase in the demand for Latin from the candidate for admission," so that now he is expected to have read four books of Cæsar's *Gallic war*, and two books of Vergil's *Æneid*, and to have learned to scan Latin hexameters; he is tested also in the translation of English into Latin. "A correspondence with Director George J. Brush," says Dr. Mackenzie, "makes known the reason for these demands. It is that young men properly prepared in Latin prove and have proved more successful students in the modern languages and other courses of study. Hence it is, I suppose, that Professor Wheeler of the same institution [the professor of German] finds it best, after conditioning all admitted candidates imperfectly prepared in Latin, to organize classes of such men for drill in elementary Latin, to the end that the French and German work of the college course may be properly prosecuted."[10] At the University of

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[10] *Proceedings of the First Annual Convention of the Association of Colleges and Preparatory Schools of the Middle States and Maryland*, December 1 and 2, 1893, p. 56.

Michigan the departments of medicine and of dentistry both require the elements of Latin for admission, and the requirement is so insisted on that those deficient in the subject are required to make up the work, at their own expense, in a class the instructor of which is approved by the deans of those departments. Evidence on all hands shows that we are entering upon a reaction in favor of classical study. There is also a noticeable tendency in favor of requiring one or both of the principal modern languages of those who study the classics. The secondary work in history, and in art, is in a state of chaos; but out of this there will be developed a consistent policy in regard to both subjects, and a system of instruction alike stronger and more comprehensive. History has thus far suffered from the lack of properly qualified teachers more than almost any other subject; in the future stress will be laid upon the accurate command of a larger number of facts and dates than now, and upon a grasp of the principles of historical development rather than upon the memorizing of outlines.[11]

The amount of mathematics taught in the high school will certainly undergo no diminution, and to judge from present tendencies, will very likely be extended by the general introduction of solid geometry, perhaps ultimately of trigonometry as well. As regards the sciences, it is difficult to draw a conclusion from the present chaotic conditions. Everyone must be gratified to note the increase in facilities for teaching the sciences in the high schools within the past few years, and the commendable spirit of progress manifested. Several high schools have laboratories that are in every way better than those of the great majority of small colleges.

The amount of ground in science actually covered in high-school work will probably be somewhat increased, but the number of sciences studied in a given amount of time will be, on the average, fewer than at present.

A discussion of the studies of the high school, no matter how brief, must take cognizance of one other important topic. In the work of instruction will there be a separation, into different classes, of those who wish to prepare themselves to enter the university, of those who do not, and of those who are taking a high-school course as a preparation for elementary teaching? The trend of educational opinion on this point is unmistakable, and in the right direction. Before the *Report of the Committee of Ten* had left the press, President Eliot, outlining its main features before the New England Association of Colleges and Preparatory Schools,[12] spoke as follows:

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[11] See Professor Hinsdale's paper on *History teaching in schools*, read before the Department of Superintendence of the National Educational Association at Cleveland, February, 1895, in his *Studies in education*, pp. 206, 222.

"On another very interesting point the conferences and the Committee of Ten were unanimous; ninety-eight gentlemen actually working in educational institutions concurred on this point, that no distinction ought to be made in the manner of teaching a pupil in a secondary school because of his destination. . . The Committee of Ten asked whether the conferences would recommend that their respective subjects be taught differently to young people who were going to college, or were going to a scientific school, or were not going to either. The unanimous answer was that they should all be taught alike."

The same instruction should be given to all who pursue the same subjects at the same time, for two reasons: first, because the way should be left open as long as possible for the benefit of those who may change the purpose or destination of their studies, this change being more easily made when a considerable proportion of the previous work has been the same for all classes; and, in the second place, because it is well for those who have no intention of going to the university to have the stimulus of association in daily work with those who are.

IV THE RELATION OF THE HIGH SCHOOL TO THE ELEMENTARY SCHOOL

In one respect the relation of the high school to the elementary school is easily enough determined; according to a number of judicial decisions, the former is in the eyes of the law merely an extension of the latter, both being parts of the common-school system. But from the educational point of view, no problem is more difficult or pressing more urgently for an early solution. It is not necessary, in this presence, to show that the educational results to be sought in secondary education cannot be gained in a course of four years. Professor Hanus defines the period of secondary education as "roughly speaking, the later years of what is now the grammar-school period and the whole of the high-school period, and often beyond."[13] We have all noticed a tendency to extend the work of the high school both backward and forward. It is now not unusual to receive from the stronger Michigan high schools students who, before coming to the university, have completed the work of the freshman year in a part, or perhaps all, of the subjects, in an eminently satisfactory manner; such students are able to take their first degree, and enter the graduate school, at the end of 3 or 3½ years. On the other hand, the tendency to push high-school studies back into the grammar school becomes stronger every year. Said President Eliot, on the occasion referred to a moment ago: "There was another point in which the recommendations of the conferences closely resembled each other; they all seemed to wish to get their subjects studied earlier than now."[14] The significance of this fact is emphasized by President Baker of the University of Colorado, in the EDUCATIONAL REVIEW for last May (p. 477).

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[12] Eighth Annual Meeting, October 13 and 14, 1893; *Official Report*, p. 23.

The earlier commencement of secondary studies may be brought about in either of two ways: by introducing them into the later years of the grammar school, or by taking the pupils out from the grammar school earlier in order to start them in the high school. The former alternative is recommended by the Committee of Fifteen.[15] "Your Committee is agreed," says the subcommittee on the correlation of studies in elementary education, "that the time devoted to the elementary school work should not be reduced from eight years, but they have recommended, as hereinbefore stated, that in the seventh and eighth years a modified form of algebra be introduced in place of advanced arithmetic, and that in the eighth year English grammar yield place to Latin. This makes, in their opinion, a proper transition to the studies of the secondary school, and is calculated to assist the pupil materially in his preparation for that work. Hitherto, the change from the work of the elementary school has been too abrupt, the pupil beginning three formal studies at once, namely, algebra, physical geography, and Latin." Their recommendation, which puts the line of cleavage between primary and secondary education two years earlier than now, will have much influence. But it marks only the first stage of a movement which will be none the less inevitable because, from the nature of the case, it must be gradual. Surely the study of a foreign language, ancient or modern, should be commenced earlier still, in the eleventh or the tenth year of the child's life, when forms are so easily impressed upon the memory, and the child, for his own best development, needs to be taught the force of words from a point of view outside the range of his native speech. At this age, the methods of instruction, as well as the subjects, should begin to be those characteristic of secondary rather than primary instruction. So soon as this view of the matter shall have been generally accepted, the end of the process of transition will not be far off. For the importance of continuity in any clearly defined stage of education, such as that which we are considering, cannot be too much insisted on. The division of secondary work between the primary school and the high school must last for a time as an intermediate arrangement, pending the readjustment of work all along the line; but the disadvantages of it will be found so great and so obvious that it cannot last. In the end the high school will probably provide a course of not less than eight or nine years, the line of cleavage from the primary school being placed where it naturally belongs.

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[13] EDUCATIONAL REVIEW, April, 1895, p. 333.

[14] New England Association, 1893, *Official Report*, p. 24.

[15] EDUCATIONAL REVIEW for March, 1895, p. 285. See also the papers by Professors Andrew F. West and William Gardner Hale, and by Superintendent A. F. Nightingale, on *The six-year Latin course*, in the *School Review* for June, 1895.

The separation of the two great parts of our common-school system at the point indicated, while proposed and carried out wholly in the interest of the pupil, will nevertheless contribute materially both to the advantage of the teacher and to the well-being of the school. It will help the teacher because he will find his work successful and satisfactory to the degree in which it is intelligently adjusted to the needs of the pupil. I have grave doubts about the wisdom of encouraging specialization among teachers of very young pupils; but till recently the tendency has been quite too much the other way, in the direction of spreading the teacher over so many subjects that he could not teach any one of them as it should be taught. The extension of the high-school work will make it possible to have a specialist of the best training at the head of each department, and the equipment of underteachers will be far better than the present average. No one should now be encouraged to go into high-school teaching in any line without a range and quality of scholarship that may be fairly represented by the work for the master's degree; that is, the completion of the undergraduate course and a year of graduate work in an institution furnishing the best possible facilities. It will not be so very long before we shall see many positions in the larger high schools manned by those who have taken the doctor's degree. This raising of the standard of professional qualifications will lend to the body of high-school teachers an *esprit de corps*, and an intelligent, appreciative interest in their work, which are now all too rare. High-school positions, having a higher professional status, will more and more attract desirable incumbents to replace those who have drifted into high-school teaching without definite professional aims, as along the line of least resistance. The advantages of the new system to primary teachers will be equally great, as defining sharply the work of the elementary period, and encouraging not less earnest but more scientific teaching, with more tangible and satisfactory results; hence with greater professional enthusiasm, which will be not evanescent but abiding.

The benefit to the high school will accrue from two sources: First, the enrollment of pupils at an age several years earlier than now will, in the natural course of events, greatly increase the attendance; it will also draw a great many who now consider the end of the elementary school a convenient stopping-place, but who would hardly stop if the break between the lower and the higher school came earlier; these, once brought into the high school, would in many cases remain, and would swell the total attendance to a point far beyond what would otherwise be expected. In just the proportion that the high school increases in size, relatively to the population, drawing its contingent of students from all classes, it will strengthen its hold upon the public and be cheerfully sustained by taxpayers; for it will give a proportionately larger number of people a personal interest in it. The agitator who now rages against the high school on the ground that it exists for a limited class will lose much more than half his capital when the attendance is twice or three times as great as the average under existing conditions. In the second place, the increase of what we may call the high-school influence on society will be immensely augmented, and will react favorably on the support of the institution that is in a peculiar sense the possession and pride of the community; this consideration is of particular significance in view of the present drift of our population toward the cities.

The relation of the high school to the elementary school involves also the question of administration. Will the high school be administered, its policy directed, and its teachers engaged, through the office of the superintendent of schools, or will the principal, made directly responsible to the Board of Education, gain full control? Will the State intervene and introduce into the high schools a system of administration from a State center through a bureau or a State superintendent of high schools? This problem is complicated, and far-reaching in its scope; it cannot be even touched on here.

The relation of the high school to the university presents fewer difficulties in the West than in the East. Speaking from a New England point of view, Head Master Huling, of the Cambridge English High School, said only a year ago: "The break in connection is chiefly between the higher institutions and the high schools. The reason for failure of adjustment at this point becomes clear on consideration. From the earliest organization of the colleges their requirements have been met by private instructors or by schools organized particularly to meet those requirements, the ancient grammar schools, the academies, and more recently the private preparatory schools and the public Latin schools." In reference to the high school, he adds, "It now conducts the education of more than half the youth of our country who are receiving secondary education at all. From these considerations the high school plainly has great inertia. It could not be conformed to the older type of preparatory school, if the colleges were disposed to make the effort. . . Now, for the first time, it is feasible to co-ordinate the colleges and the high schools, because now it is possible for the high school to appeal to every variety of aptitude and talent, and yet find its capable pupil prepared at graduation to pursue with profit some important courses in some higher institution."[16] But that which Dr. Huling announces with the enthusiasm of a new discovery, the feasibility of co-ordinating high school and college, has been recognized, and not only recognized but tested by successful application, in the West, for twenty-five years. At the present time the number of schools whose work is so adjusted to that of the undergraduate department of the University of Michigan as to secure a place on what is called "the accredited list" is 152. Of this number, 137, or more than 90 per cent., are high schools; the remaining 15, or less than 10 per cent., are partly academies, partly private schools, partly small colleges and normal schools having a classical course. And it is quite too late in the day to affirm that the quality of preparation furnished by these schools, in the average of work offered for admission, is inferior to that furnished by the schools preparing especially for the Eastern colleges. The simple fact that a certain proportion of youth trained in the Western high schools find no difficulty in gaining admission to those colleges speaks for itself; on the other hand, to take an illustration from the university side, Professor Rolfe, who, a Harvard man by training, came directly from the staff of the Latin department of Harvard University to that of the Latin department of the University of Michigan, has more than once remarked that there is no perceptible difference in quality between the average preparation of the Michigan students in Latin—nearly all from the high schools, we must remember—and that of the Harvard students.

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[16] Ninth Annual Meeting of the New England Association of Colleges and Preparatory Schools, 1894; *Official Report*, p. 5.

The reason why this *modus vivendi* comes so late to the New England institutions lies in the failure, on the part of certain educational leaders, to recognize the significance of the high-school movement, and to feel the importance of helping and thus directing it rather than antagonizing it. Now that the point indicated by Dr. Huling has been reached, a more complete adjustment will gradually be made. The organization for establishing closer relations between colleges and schools in the North Central States is the last in the field, not because Western teachers are less interested in educational issues than others, but because the relations between the stronger high schools and the higher institutions have been in general so satisfactory as to make the need of fuller co-operation appear far from pressing. This organization, as those of the New England and the Middle States, will have an important mission in bringing the institutions of secondary and higher education into closer sympathy. It is a manifestation of a tendency which gains in force each decade, a tendency to unify all the parts of our American education—elementary, secondary, and advanced—in one consistent system, and so to articulate the first stage with the second, and the second with the third, that the student will pass from the lower to that next above without waste of energy or a feeling of irritation.

Francis W. Kelsey

University of Michigan,
Ann Arbor, Mich.

VI

DISCUSSIONS

THE PSYCHOLOGY OF EDUCATIONAL FADS

Within the experience of most men and women who are now prominent in educational work, there have occurred from time to time various movements which, for want of a better name, might be called "disturbances." In effect they were a sort of pedagogical earthquake, that rattled the educational structure deep into the foundations. Perhaps, on the whole, they left the superstructure a trifle firmer; perhaps the benefits in the long run were more than commensurate with the unsettled condition that such disturbances are apt to leave; perhaps the worst result was the where-am-I-at sensation that impels one bewildered to clutch at whatever may be next the hand. Among the disturbances that have convulsed the educational structure in America are:

The object-lesson fad; the fixed-unit fad, as set forth in the Grube and other systems; the language-lesson fad; the Quincy-system fad; the apperception fad; the correlation fad.

In applying the term "fad" I positively disclaim any discourtesy toward the originators of the ideas or toward the systems evolved. Each movement was based upon principles more or less sound, and possessed much of value if rightly used. Each became a fad because it was misunderstood, misapplied, and unskillfully used. The object-lesson fad, for instance, excites no feeling but that of derision, when mentioned nowadays; and yet every principle it involved was pedagogically sound. It died from abuse, killed by its friends. I well recall the contempt a teacher refused to conceal when I shamefully confessed that I could see no other essentials about a pocket-knife except blades, handle, spring; and rivets. He had found twenty-four parts and was begging piteously for a twenty-fifth. Viewed in such an aspect, is it strange that object lessons and object teaching fell into disgrace? What could better serve to sharpen the child's perceptive faculties than such a course as that elaborated by Mr. Ricks? And yet, if I were responsible for the conduct of a faculty of teachers, I should be almost afraid to use Mr. Ricks's manual for fear that some superior officer might insist that each child should memorize every fact, action, or thing that he observed.

In their *Psychology of number* Professors McLellan and Dewey have certainly lifted the fundamental principles of arithmetic-teaching to a higher and a better position than they before occupied. Their volume will prove a sort of tombstone to the Grube system, as a fad, and it is well that, as a fad, it should be buried. The originator of the system regarded the fixity of the unit as an incident only. Moreover, there are many teachers who, having used the system properly, see in it what it is worth; and it is worth a great deal.[1] But there are thousands of others who made the fixed character of the unit the one essential feature of the work. So easy it was to do thus that the system readily became a fad and properly fell into disgrace. Doubtless, some of the enthusiasts who follow in the steps of Messrs. McLellan and Dewey will so emphasize the changeable character of the unit as largely to prevent its proper concept. The unit must have a certain fixedness of character; if it is not a unit, what is it?

Apperception had its day; and yet who will say that the underlying principles were not sound and their application not practical? So, too, with correlation. It did not live long enough to be a popular fad: it scarcely lived long enough to be dissociated from its entanglement with concentration. Yet the idea embraces the soul of the most important, and the most economical, principles concerned in education. Does it need the more than masterly plea of Professor Lukens, in a recent number of this REVIEW, to demonstrate this?

Herbart's teachings fortunately have not reached the fad stage, and it is to be hoped they will not. Fortunately, they are out of reach of the class who have brought other rational principles into disrepute. It is a significant fact, however, that all the discussions relating to Herbart, *pro* and *con*, are directed to those ideas that he himself considers more or less empirical and always secondary; that is, the various theories embraced under the caption, "The many-sidedness of interest."

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[1] I note in this connection the forthcoming work of Principal Branson of Milledgeville Normal College.

In a certain rough way a verse of the Odyssey outlines the science of education:

τί πρῶτον, τ δ' ἔπειτα, τί δ' ὑστάτιον καταλέξω;
What first, what next, what lastly shall I choose?

Modern pedagogical science is rank with discussions involving the first and the second, but one rarely sees references to the ὑστάτιον, the final, which Herbart considers the summation of all educational efforts, namely—the formation and development of character; and this aspect is about the only one in the psychology of education that is worth more than an incidental consideration. True, we have recognized the many-sided aspects of educational methods, but, as body politic, we have recognized but one side at a time, to the exclusion of others. If the first two hundred pages of Herbart's *Science of education* were omitted, about everything that the author himself considers essential would remain, and the remaining chapters would constitute a pretty complete science of education.

The psychology of the fad in education does not materially differ from the psychology of other delusions, except that it involves a class of people that intellectually should rise above and beyond everything that is chimerical. When we are willing to admit that the development of a sturdy moral character is the one essential end of education, and that the cultivation of the other faculties is a secondary matter that may be approached from many sides, and by a legion of methods, there will be fewer opportunities for the fad in education to become an epidemic. One may foist an imitation of his own ways upon another, but in doing so he destroys individuality without giving anything in the place of it—no matter whether the relations be those of principal and assistant, or teacher and pupil. No advance steps are beneficial to an individual, a class, a people, or a race that do not flow from a natural growth of the mind or from a self-conviction as to their needs. The greatest problem in education, therefore, is not so much the unmasking of fundamental principles as the discovery of the conditions and rate of their assimilation. When we have mastered this problem, rational processes will not be apt to degenerate into fads.

JACQUES W. REDWAY

MT. VERNON, N. Y.

AN IMPERFECT CORRELATION

The term correlation has come to include three terms, viz., the interrelation of different studies; co-ordination, dealing with two or more groups of study; and concentration, with one center. In the able article, "A high-school course in English literature and its correlations," published in the December (1895) EDUCATIONAL REVIEW, the term is evidently used in its first sense. In this sense the meaning is restricted to include (1) the broadening of the course in English literature by making "each selection a nucleus for the study of the author's works, a group of his contemporaries, and even the whole epoch"; (2) such a thorough-going treatment of each selection as will not overlook its necessary historic, economic, or other relations. This latter method serves not so much to correlate the literature as to isolate it and give the student a clear conception of its real meaning. The article is an excellent presentation of a method of teaching literature; but where is the correlation?

The very fact that excursions have to be taken into so many fields indicates that a vast amount of the time assigned to the study of literature is really given to extraneous details. The time given to literature is sacrificed to history, political economy, etc., without the latter returning any adequate compensation to the former.

An analysis of the selections given indicates that the chief correlations are with history and political economy, although there are important correlations with other subjects. What is needed at present is not to be reminded that a selection should be a nucleus for the works of an author, nor that the author should be a center for a group of his contemporaries, nor even that in teaching a piece of literature we should not neglect its historic or economic background or suggestions. Good teachers of literature have not neglected these points, nor would they, even if there were no such term as correlation in common use. What is needed is fundamental, viz., that there shall be such a careful rearrangement of the course of study that the studies which correlate shall re-enforce each other at just the right time. Then not only "would each teacher be informed respecting the current work of his pupils in all fields and would be in a position to suggest many interesting and useful correlations," but these interrelations would be so manifest, and the mutual help so evident, that there would develop a spirit of unity which is now impossible.

A. F. AMES

RIVERSIDE, ILL.

SHALL WE INTRODUCE THE MILITARY SYSTEM IN SCHOOLS?

There has been considerable discussion in the magazines and educational journals on the advisability of introducing military drill more generally into our schools. The ball was set rolling by ex-President Harrison, who wrote a letter to the *Century* favoring the idea, which immediately aroused the opposition of those patriots who stand horrified at the object lesson in militarism offered by the standing armies of Europe. It has been a matter of surprise to the writer that so few took the affirmative side of the question, and especially those who, from experience, are best fitted to defend the system. It may be that if we, who are so successfully using the system, were to explain the advantages too fully that our suggestions might be adopted too freely for our own business comfort; in other words, we might multiply the number of military schools, and thereby create a competition that would materially affect our incomes. But, on the other hand, the opponents of this system make such an unfair statement of the case that it may be well for some of us that have obtained our faith by our works to state the opposite side; for if teachers, whose business it is to weigh every factor that may enter into a child's education, are so blind as to fail to see the very great benefits arising from a proper use of the military system, what can we expect of parents who give, as a general thing, but little attention to the subject at all, especially in its details?

In the first place, it may be well to state that in military schools there are two systems in use; one, which I shall designate as the "cast-iron" system, in which everything is made subservient to the military department, and the other, which I shall term the "steel-spring" system, in which the military feature is but one of the means toward the perfect development of the boy. In the former a boy must bend or break; his individuality is almost completely lost in the absolutely rigid requirements of the army regulations. In the United States Army there is almost as wide a gulf between the commissioned officers and the men as there is between master and servant; there is an utter lack of sympathy between them; and when, as is often the case, a United States Army officer is detailed to take charge of the military department of a school, he carries with him this same idea of superiority, and too often treats the boys under his charge as mere elements in a machine—a soulless aggregation of intelligent muscles that must follow a cast-iron rule or be broken. One of three things happens: the boy outwardly submits to all requirements, cursing the day that saw him entrapped in such a net; or he submits with as good grace as possible, consoling himself with the reflection that it will be his turn next—and then look out! he'll show the other fellows a thing or two! and, lastly, there is the sensitive, spirited boy, who has judgment and a will of his own, who bears the strain as long as human nature can stand it, and then—something breaks; he openly rebels, is expelled from school, and, probably, is ruined for life. The writer objects to the cast-iron system.

Now as to the steel-spring system. A word explains the whole idea: the boy is allowed a certain amount of latitude, allowed to use his own judgment to a certain extent, even in military matters; but if he concludes to depart from the prescribed path he finds a stronger and stronger force pulling him back, and in the great majority of cases this constant pressure brings him back into the line of duty, and so long as he keeps in it he feels no galling restraint; but let him deviate, never so little, and he finds, in a properly adjusted system, a force, proportioned to his deviation, drawing him back again. In a short time he comes to know what is expected of him, and from that time on the machinery moves as smoothly in appearance as the cast-iron system, but with the important difference that it is made possible by the *willing* obedience of its elements—the cadets. One act of willing obedience is worth more, as an educational factor, than a week's work under compulsion. It is a rare thing, under this system, that the spring is strained until it snaps.

It is probable that the opponents of the military system got their impressions from schools using the cast-iron system; but even it has its advantages in common with the milder and better system. In this, as in everything else, the general public takes but a superficial view of the subject. You ask ten men what advantage they consider a military school possesses over the non-military, and they will say, "Well, it straightens the boy up," and nine of them will go no further; the tenth man may add that "It gives a boy a graceful carriage and teaches him to obey orders"; it is a rare thing, indeed, you will find a man who takes a deeper or broader view of the subject.

Aside from the fact that it does give a boy a more erect figure and a more graceful carriage,—physical traits only,—there are moral, mental, and social reasons for giving boys the military training. The more a boy's school environment can be made to foreshadow the better part of the real world in his after life, the better. As a private, in the ranks, he must learn implicit, unquestioned, and immediate obedience to his superior's orders, be that superior a fellow cadet sergeant or the commandant of the battalion; and most boys need this lesson. How many boys who have arrived at the age of, say fifteen or sixteen, always obey their parents after this fashion? Very, very few. And if these same boys are allowed to grow to young manhood without learning the lesson of absolute obedience to rightful authority, what kind of law-abiding citizens may we expect? As a matter of fact, let any intelligent person compare the present-day record of college hazing, and see if the non-military does not furnish the larger number of examples of rowdyism? To what is this due? Undoubtedly to the better *esprit de corps* found in the military school, and to the fact that a large part of the discipline is in the hands of the older cadets themselves. The law-abiding boy is the more likely to become a law-abiding man.

In a properly regulated military school a boy soon learns that he has a double function; in the classroom and on the playground he is on an equal footing with every other boy; but the instant he steps into the ranks as a cadet, his cadet officer is his superior; he can no longer presume upon his friendship, nor need fear his enmity, if the officer is as upright and conscientious as he should be. He must obey the law, regardless of the means through which this obedience is required.

Promptness and regularity are other valuable elements in the life of any man, both of which are instilled into boys that are educated in a military school; but there is one valuable training that a boy gets in no other kind of school, and that is the development of his executive ability. There is nothing to take the place of the training obtained by a boy as a cadet officer; after serving from one to two years as a private, he is made a minor officer—a corporal or a sergeant, the grade depending, to a certain extent, upon his natural ability. At first his duties are almost nominal, but he is given enough to do to give him self-confidence, a big point in itself; gradually his sphere of authority is extended until he is placed in charge of an "awkward squad" as drill master; here his own mistakes are not noticed by his men on account of the rawness of the material with which he has to deal, but he profits by his experience; after a year of this kind of work he is made a lieutenant or a captain, and he frequently has entire charge of a company, and occasionally of the entire battalion; he soon acquires not only the tone of command, but what is better, the bearing of a commander; seeing his commands obeyed so often and so readily, the faculty of directing others becomes a part of him, and it is one of the most valuable traits a man can have. What other school pretends to develop a boy's executive ability? What other school can? In a great many vocations of life it is not enough to know how a thing should be done; but one must be able to execute his designs. A graduate without this power is like an escaping prisoner on a locomotive, who knows nothing about the throttle-valve to the engine—he has the means of escape, but he cannot use them.

Then let us do away with the idea of mere military display, recognize the true value of the right kind of military discipline, and let us work for more military schools instead of arguing against them.

C. W. Fowler

Kentucky Training School,
Mt. Sterling, Ky.

VII

REVIEWS

The Philosophy of school management—By ARNOLD TOMPKINS, Professor of Pedagogy in the University of Illinois. Boston: Ginn & Co., 1895. 218 p. $1.00.

This is a companion book to the *Philosophy of teaching*, by the same author. In the earlier volume school management was treated in a single chapter, of which this later work is an elaboration. School management and school teaching are so intimately related in the actual school that it is not always easy to differentiate them, and in some instances Professor Tompkins has treated under the head of school management topics which properly belong to teaching, as, for example, the recitation and the art of questioning; but in the main his distinctions are clear.

The *Philosophy of school management* is dignified, thoughtful, and inspiring; it is a book which all connected with school work should read. The author has been remarkably successful in unifying his work; there is a single line of thought running with perfect distinctness from beginning to end. This line of thought is the same as that which dominates the earlier work, namely, the unity of the school. The keynote of the book is found in the statement, "The school is an organic spiritual unity." The school includes, according to Mr. Tompkins, tax-payers, parents, boards of education, buildings, appliances, teachers, pupils, everything concerned in the education of the child, from the conception of the idea of education to its realization. "The idea of developing the child by a systematic teaching process brings forth the objective school; and this, in turn, must bring forth the development of the child. The objective school must answer back to the life which supports it. It stands as the middle term in a series, between an idea and its realization; but it takes the whole series to constitute the school." The law of the school, upon which all of its activities depend, is not a law imposed from without by school authorities, or even by the state. It arises from within, and may stand in opposition to an externally imposed law; it is as essential as is the law of the plant or the animal.

Education is the process of the development of a living organism, and the school is education in the process of realization. Thus, "the real school, from which the law emanates, is mind in effort to unfold mind." It reduces itself to the spiritual unity of teacher and pupil; these two are the school in essence. "This seems to be the spiritual center out of which issues all law, and to which all instrumentalities co-operate; for it is here that the miracle of changing the ideal into the real is wrought." "School management is the process by which all the acts of all the agents constituting the organism are brought into the unity of the one act above described." The school, further and finally, reduces itself to the spiritual unity of the pupil himself. "This is the unity of the pupil's real and ideal self, or rather the school is the tension between the two." "And here we have come upon the most specific and vital principle of school management—one which must be carried out throughout the discussion. A school is firmly grounded when it is conscious of itself, if we may think of it so—that is, when the objective school is held by the pupil as arising out of his own life; when seen as truly himself, and not the will of another; when he does not feel that it is something set over against himself, but that it is himself, projected in that form for his own self-realization." This fine analysis at first seems somewhat fanciful, and yet it suggests the only possible philosophy for a true school. Ideal education can be nothing but assisting the child to attain his ideal self, and all the machinery, buildings, appliances, teachers, authorities, exist but for this end. In so far as they aid each child to attain his ideal self, they are useful and constitute a true school; in so far as they fail to aid in this accomplishment, they are useless or harmful, and constitute a false school. This is the fundamental idea of Professor Tompkins's book. If followed in the organization and administration of school systems, it would brush away at once bad teaching, bad government, bad appliances, and, above all, that devotion to the machine for the machine's sake, which has crushed the life out of so many a school, and dwarfed the growth of so many a budding child's soul. "Thus we have reached the simple but potent truth that the general law of unity of the organism, which controls the whole complex school system, reduces itself in last analysis to the unity of the pupil's ideal and real self. This is the unity which must never be violated, and which the whole system stands pledged to maintain. In all questions of school organization and management this is the court of ultimate appeal." Having stated clearly and fully the law of the school, the author then discusses, first, "The law evolving the organism," and second, "The organism executing the law," thus completing his circle.

Under the first head he considers the teacher and his relations to the pupils, the schoolroom, the mechanical appliances, and supervision, as the outgrowth of the idea, school. There is not place in this review to dwell upon the excellent suggestions contained in this chapter. Under the first head he makes a strong plea for professional spirit, which he defines as, "The feeling of urgency produced by an ideal, in order that the ideal may realize itself," and takes the high ground that the realization of the ideal should be both the motive and the reward of the labor required to realize it. The desirability of good salaries for teachers rests, not upon the demand of the teachers, but upon the necessity that, if they are to have the professional spirit, they be freed from carping care.

Under the head of supervision he takes the position already advocated by the Committee of Fifteen: insists that the business and educational departments of the school system should be kept distinct, and that the superintendent of education should be free to chose his teachers and determine his courses of study.

Much excellent advice is given as to methods of selecting the teacher and aiding him in his work. "To supervise instruction is to find the way through the teacher to the pupil."

In the chapter devoted to "The organism executing the law" consideration is given to the organization of the school, including classification and gradation, the classes studying, the classes reciting, and order. The author's treatment of classification and gradation, while containing much excellent matter, is the weakest part of the book. He is strongly in favor of such an arrangement of school classes as tends to the development of the individual, but is not in favor of the extreme methods advocated by Mr. Search, whose Pueblo plan is briefly discussed. Then follows a plan for gradation, which is supposed to do away with its evils. This was prepared by the author some years ago, and might better have been omitted from the present volume, as it fails to show a proper solution for the problem and, as it seems to the reviewer, fails to carry out the author's own idea of the importance of breadth as well as length in a course of study. Progress through the grades is not necessarily progress in education, nor does it by any means follow, because two pupils remain in the same grade, for the same length of time, although of widely differing ability, that one is either kept back or the other crowded forward. The course of study should be so rich that, while its requirements do not exceed the average ability, it will yet furnish mental food enough for the best minds. The evils incident to close gradation, however, are great, and pupils should be put forward as rapidly as their maturing abilities will allow.

The author's plan, while relieving the congestion in the lower grades and allowing the younger pupils to advance by short steps as rapidly as possible, seems to cause both congestion and retardation, or forcing, in the higher grades, but his main proposition that the steps between grades should be short, and that pupils should be put into classes for which they are best qualified, is right and in accord with the best practice.

The suggestion that pupils recite in different subjects with different classes, while it has some things to commend it, seems to ignore the value of a correlated course of study and the desirability of a harmonious development.

The treatment of the order of the school, is, in the main, excellent. It depends upon the unity of the organism, which may be broken either by teacher or pupil. If this unity has been violated, it must be restored, and in his discussion of this subject the author is at his best. Since the law of the school is found "Within the spiritual unity of the pupil himself," if the pupil has violated a law and thus has broken the unity, no one but himself can restore it. "The school is never stable unless it rests in the pupil's adoption of it as his law." "No arbitrary will must displace the pupil's obedience to himself, as objectified in the school." "It may be good, but it cannot be best for the pupil to obey his teacher." From these principles stated earlier in the book, the author draws the conclusion, that broken unity in the school is not restored when the pupil submits to the arbitrary will of the teacher; but when he submits to his own will, he restores the unity within his own being; then is the unity restored in the school, which is but the projection of himself. This is high doctrine. I think, however, that many teachers will justly question the statement, on p. 180, that evil manifested may be a good thing. "If the boy desires to write his autograph on the floor, the teacher should be pleased to have him do so; the problem of rubbing it off can be made so purifying and tonic to the blood." The distinguished author could hardly have realized the natural inference to be drawn from this remark.

It is to be regretted that in a few places Professor Tompkins has allowed himself to lay aside his dignity for the sake of saying something clever, as for instance in his description of the mediocre superintendent, on p. 94, and in his introduction of the quotation from "The Courtin'," on p. 132. In a few instances, also, the author's good English deserts him, as, for instance, on p. 131, "If the teacher has not lived the first day in idea more than what is required to write, etc."; on p. 127, "No problem of organization is more easily solved, theoretically . . . but none more difficult of practical solution," and on p. 142, "This problem thoroughly entered into, and the teacher becomes," etc.; but these are trifling defects; the book as a whole takes high ground, has unity of purpose and dignity of treatment, and is a really valuable contribution to educational literature. It is well worth reading.

C. B. GILBERT

SUPERINTENDENT OF SCHOOLS,
ST. PAUL, MINN.

Macaulay's Essay on Milton—Edited by JAMES GREENLEAF CROSWELL, Headmaster of the Brearley School. New York: Longmans, Green & Co., 1895. lii + 89 p. Introductory price, 60 cents.

Webster's First Bunker Hill oration, together with other addresses relating to the revolution—Edited by Professor FRED NEWTON SCOTT of the University of Michigan. New York: Longmans, Green & Co., 1895. xliii + 137 p. Introductory price, 60 cents.

Milton's L'Allegro, Il Penseroso, Comus, and Lycidas—Edited by Professor WILLIAM P. TRENT of the University of the South. New York: Longmans, Green & Co., 1895. xviii + 181 p. Introductory price, 60 cents.

We have here the last three issues of Longmans's English classics, of which the first three have already been noticed in the pages of the EDUCATIONAL REVIEW. The rapidity with which these volumes "follow hard upon" their fellows, gives us good assurance that we are to have at last a single series which will cover all the entrance requirements in English. A glance at any volume reveals that we have here the handsomest of all the series as well. The three issues reviewed in December were all intended for reading: two designed for study and practice are now at hand.

A word may still be said concerning the objects of this series as a whole. The general editor desires, first, "to interest young students in certain books, *as literature*." Effort is to be made "to make these books not only pleasant and useful reading in themselves, but incentives to further reading and study." Secondly, he will provide in each case a "thorough and satisfactory method of treatment." Finally, he will set before "students, who are not preparing for college, a series of properly edited English classics." It was worth while to specify this last purpose. The English entrance requirements as a whole may fairly be regarded as provided in great measure for those who do not intend to enter college; and in the preparation of these classics for school use that great majority ought to be frankly taken into account.

The books set forth by the conference, even in the most deferential hands, are susceptible of this division: (1) Books which the schoolboy ought to read, and (2) books which he may read, but which he is too young to appreciate rightly. Concerning this second class the great need of the boy about to enter college is to be relieved of the necessity of studying them. For him it would surely be more healthful if he might be fed on good literature that he could assimilate, no matter if it all belonged to the nineteenth century or to the last twenty years thereof. Shakspere and Milton would then be reserved for later and better days, and *Macbeth* and *Lycidas* and *Paradise Lost* need not then submit to the hopeless drudgery that has reduced the *Iliad*, "Into what pit thou seest, from what height fallen." But to the boys who did not go to college Shakspere and Milton might then be and remain mere names: that is to be avoided at any cost.

These works, then, in whichever of the two classes named above they fall, are to be edited on a general plan, for which the youth of all the students marks a useful limit. If we may judge from the volumes containing Milton's shorter poems, the editors, though presenting these books "as literature," will deal but little in pure literary criticism. Wisely, no doubt, though with a certain inadequacy in the case of the greater classics, they will furnish, rather than literary criticism, stores for criticism in future years. In putting before the student this fund of useful information, however, they serve him first of all in another and more immediate way. For to remind a boy just what a line means is certainly a good way to keep him from reading perfunctorily and apprehending vaguely—the faults to which his youth is most exposed. How many boys regard this whole scheme—which has cost so much time to set forth—as so many pages of work, to be got through in so many "periods"! And how many teachers sigh for the means to make those boys read good books with the interest they perversely show in bad ones!

The editions before me are all efforts to solve this problem on these lines; the results in the case of two of them are somewhat startling. All profit by certain specific excellences in the plan of the general editor. When one opens one of these books he sees an excellent portrait of the author. I hope the time may come when no classic intended for study as literature will lack such a frontispiece; if we wish an author to cease to be a name, let us make him a person. The notes are at the foot of the pages, where, in any book intended for reading, they certainly should be. How much time has the diligent student sacrificed, how much valuable information has his less conscientious brother lost, through the persistent huddling together at the end of a volume of a mass of notes intended to "facilitate intelligent reading"! The suggestions for teachers are likely to be of great value not only because many teachers need assistance in such work, but also because they must tend to introduce the uniformity of method that is hardly less valuable than the uniformity of the courses themselves.

The *Essay on Milton* in this series is a highly conscientious effort to do for the schoolboy all that diligence and love in an editor can do. The results throw some light upon this essay as a book for youth. An essay of 60 pages salutes us as a book of 140 pages: the introduction covers nearly 40 pages, the suggestions to teachers require 12 more, the notes must represent about 30 pages. Yet this work is to be read rather than studied! The difficulty is, of course, that Macaulay was young and not averse to displaying his erudition; that Macaulay is fond of controversy, and never evades a question that comes in his way; that, moreover, Macaulay loves concreteness and never touches a thought without naming a man. Hence the zealous editor must take up not only Macaulay, but Milton, not merely Macaulay and Milton, but Dr. Johnson, who attacked Milton; and he must mention the party prejudices of the Doctor, as well as the political beliefs and aims of Macaulay himself. We are not surprised that a dozen lines on the 37th page of the introduction must suffice to mark Macaulay's "position in literature." This appalling breadth appears also in the notes. On p. 6 we find as note 1: " 'Matter is imperishable and eternal, because it is not only from God, but of God,' who is eternal. Milton would be classed now as a pantheistic materialist. He appears to hold that there is no radical distinction between body and soul, or between matter and spirit." As note 4 we are told that quartos are "books in the making of which the large sheets of printing paper are folded twice, making four leaves." In what stage of culture is the pupil who, being able to make use of the first note, is yet in need of the second? Of course the editor makes occasional slips. The word *orthodox*, which is passed by on p. 6 is explained on p. 9. There is a typographical error too in the numbering of the notes on p. 31. But it is idle to pick flaws of this sort. If this edition has a fault, it is its compass: the truth about this only actual use can reveal.

The orations of Webster presented, no doubt, a less severe task for the editor; at all events, Professor Scott has been altogether successful. His biography of Webster is concise; his remarks on Webster's oratory pertinent and brief. After unusually explicit suggestions for teachers, are set forth specimen examination papers, which furnish a sort of *terminus ad quem* for the inexperienced teacher. I have intimated that these orations had few pitfalls for editors, but the general note at the end of this volume proves that Professor Scott thought of a great many things connected with Webster which he decided not to incorporate in his introduction. It contains very brief discussions of some twenty-two topics.

In opening the third of these volumes, we are surprised by coming at once upon the suggestions for teachers. Professor Trent, when he came to write a biography of the poet, seems to have found his "occupation gone." The painstaking editor of Macaulay's essay had discoursed upon Milton already. The suggestions in question, too, are brief, so that the general matter of introduction covers but ten pages. An excellent prefatory critical note is provided for each poem; and gathered at the end of the book are over one hundred pages of notes. This book is intended for study and practice, and the editor had a right to conclude that it would receive a good deal of the teacher's and pupil's time. He expects, no doubt, that the study of these poems for school children cannot but prove a severe task, and he assails courageously the problem of making these boys and girls—if they must read the *Lycidas*—understand every word and phrase so long as "Memory holds her seat." The result is a magnificent mass of notes, which the enthusiastic student of the great poet may work through with satisfaction and with profit—but, in all respect be it said, it is not easy for me to picture any schoolboy of my acquaintance agreeably engaged with them.

The omission of the biography of Milton is to be regretted. Some of us, too, may have our personal quarrel with the editor on account of the position of the notes, but we must remember that the book is intended for study, and that in this matter we might find the teacher for practical reasons against us. The question of over-editing is a more serious one; but in the case of a book intended for detailed study it is hard to see how there can be too much good editing, and good the work of Professor Trent certainly is. If doubts arise concerning the usefulness of some of these prescribed works, we must remember that the excellent thoroughness of these editions has called them up. The series as a whole certainly marks, through this very characteristic, a clear advance beyond all its predecessors.

MILTON HAIGHT TURK

HOBART COLLEGE,
GENEVA, N. Y.

The history of education in Connecticut—B. C. STEINER, A. M. Bureau of Education, Circular of Information No. 2, 1893. Contributions to American Educational History, No. 14, Herbert B. Adams, Editor.

Higher education in Iowa—LEONARD F. PARKER. Bureau of Education, Circular of Information No. 6, 1893. Contributions to American Educational History, No. 17, Herbert B. Adams, Editor.

Higher education in Tennessee—LUCIUS SALISBURY MERRIAM, Ph. D. Bureau of Education, Circular of Information No. 5, 1893. Contributions to American Educational History, No. 16, Herbert B. Adams, Editor.

In these reports we have laid before us, by the accident of order in publication, as many distinct types of educational development: one, the primitive New England system, commencing with its earliest settlements and meeting the first social demands in the light of its inherited English traditions;

readjusting, adding to, and improving its educational institutions as required by its developing history; the second, that of a Western community of New England antecedents, establishing itself upon the foundation of a national experience of half a century, and building broadly for its educational, as for its political institutions; while the third is that of a State developing in, and positively affected by the social atmosphere of a Southern life, but in its later years entering upon an era of reform in the complete reorganization of its educational system that already gives it rank with the progressive States of the republic.

The report for Connecticut is a compilation and arrangement of materials that are of great interest and of permanent historical value. Two ideas appear as positive factors in the history of the Colonies of this State. The first is the spirit of individualism in which every person and every nucleus of social life asserts itself, and refuses to lose its identity in the aggregate mass either of policies or institutions. The other is the conviction that ample provision must be made for the higher intellectual and religious education necessary for those who are in public service, and for the instruction of every free man in "reading, writing and cyphering." In spirit and in final results, it is claimed for John Davenport that he is the father of Yale University. The first movement toward this was in establishing what was, like its English prototype, the Latin School. Education was then extended to the masses, and made compulsory (1650) by requiring parents to see to it that the children and apprentices be given instruction in reading and the catechism.

It is interesting to note that before Connecticut was able to support a college of its own, its commissioners (1644) command a contribution of "a peck of corn, twelve pence money, or other commodity, of every family," for the maintenance of poor scholars in Cambridge. Next followed schools set up on plantations, supported one-third by the town and two-thirds by fees. Then came the grammar school, county Latin schools, and common or town schools.

It is justly claimed for Connecticut that she led the States in land grants for support of public schools, having in 1737 reserved one-fifty-third of each town as school land. In a general decline of her schools, she learned that general interest will not serve as a substitute for definite supervision, and accordingly provided the remedy in an efficient superintendency. Of the school fund accruing from the sale of lands in the Western Reserve, in 1799 the first apportionment was made of interest which had accumulated since 1797, amounting to $60,403.78. From the surplus of the U. S. Treasury, divided between the States in 1837, $763,661.83 was paid to Connecticut.

The State deposited this among the towns in trust for the State, one-half for current expenses of the towns, and the other half for education. When, however, in 1859, the State directed that it be all used for education, it appeared that five-sevenths of this had been misappropriated by the towns for their own use. This fund or gratuity has been of no service to the schools of the state.

The general educational movement culminates in the founding of Yale College. The progress of this movement, and the development of the College to its present greatness as Yale University, very properly occupies the largest place, and furnishes the most interesting reading. The diverse interests originating with these separate colonizations, the religious convictions and theological differences inherited from the civil and religious history of the mother country were intense and active, and nothing proves the more intense loyalty of those pioneers of our civilization to greater truths and greater interests than their steady progress toward union in civil affairs, and the final establishment of institutions of religion and education.

Yale University is so well known that a résumé of her history is uncalled for. Nothing but a careful reading of this excellent report will satisfy those who wish to know more. To the report, then, we must refer any who will know how New Haven secured the location of the college; how Harvard, in sympathy, and in men, for many years was prominent in its support; how in its emergency, Cotton Mather enlisted the interest, and secured a present from Governor Yale, which circumstance gave it its name, and ended the strife as to its location—and in short, whoever will know more of the great names that have made Yale, and have been made by her, must read this report for himself.

In addition to the history of this university, which has made Connecticut and America known throughout the world, other colleges, which represent other Protestant denominations than those of the Calvinistic type of theology, occupy commanding positions, and have added greatly to the educational and religious power of New England. Of this number are especially Trinity College at Hartford and Wesleyan University at Middletown.

The spirit of New England was transplanted by immigration into the new State of Iowa. Education begins its history here upon the foundation of an organized State government and half a century of experiment in adapting educational institutions to American conditions. And to this must be added the positive encouragement and support afforded by the Federal Government in the ordinance of 1787 and subsequent acts.

Under these conditions, we see the schoolhouse planted and blossoming with the earliest efforts of pioneer life. The elements of organization in supervision and districting appear early. These have the usual experience of irregular, still of permanent progress. The State superintendency, once adopted, then abandoned, was finally and permanently established in the State system. The half-million acres granted by the Federal government suffered the fate in Iowa that it did in several other Western States, and was largely sacrificed by bad management. The grant of 1862, known as the agricultural land grant, has given the State its Agricultural College and Experimental Farm at Ames. The university grant of two townships (40,080 acres) in 1840 gave the State its university at Iowa City. And now, after a struggle of fifty years, through which entire period the people have shown characteristic loyalty to education for the whole people, the State has a township system of common schools, under an efficient county and State superintendency, thoroughly sustained and recruited by normal schools and county teachers' institutes, a system of free high schools, and in higher education a State university, a State agricultural college, and several flourishing denominational colleges, twelve of which are reported. Iowa may be called a rural State, in the absence of any metropolis that exerts a centralizing influence. This fact characterizes her educational system, and, while she is at the disadvantage of not being able to point to some one towering institution, whose influence is felt over the entire State, and whose name is known over the educational world, she may yet boast of a general intelligence among her people that gives her first rank among the States of the Union, all of which is the natural result of her system of education, harmoniously developed, equally distributed, and brought within the reach of all her people.

In the history of Tennessee we see how the educational idea was planted and fostered principally by outside influence. In addition to the difficulties that belong to all new States, Tennessee had her local hindrances, as the general prejudice against the doctrine of universal education, which is a part of the doctrine of universal liberty, and equally strong opposition to State direction of education, which, in their opinion, was a matter of individual and private enterprise. The Government acts of 1806, requiring that "one section in six be set apart for education," was without effect here, because there was no township system. The government grant (100,000 acres) for two colleges went to what are known as the Peabody Normal College and the State University of Tennessee. The effort of 1830, to organize a district system, was feeble and ineffective. The school funds were squandered and used for private purposes.

The common school history of Tennessee is soon told. After the war, before which nothing had been accomplished, a State system was established (1867), a State superintendent appointed, and the school fund ($90,000) was turned over to counties. In 1870 the law was practically repealed, leaving the matter of education with the counties. In 1872 but one-third of the counties raised a tax for common schools. In 1873 the law, which is still in force, was enacted. Since then there has been steady progress along lines in harmony with the plans of other States. The latest report gives us, persons enrolled, between the ages of six and twenty-one, 420,104; teachers, 7911; schools, 6934; value of school property, $2,380,319.

In higher education, as Connecticut was indebted to Harvard, Tennessee received her support from Princeton College.

The University of Nashville, as now known, began its history as a part of North Carolina with Davidson Academy (1788), of which Rev. Thomas B. Craighead, a graduate of Princeton, was one of its most prominent supporters. In 1806, as an effect of the Government land grant (100,000 acres) to colleges, the name was changed to "Cumberland College. In 1824 it received its great impulse in the presidency and enthusiastic devotion of Rev. Peter Lindsley, also a graduate of Princeton College. It had a varied history of resignations, suspensions, and reopenings until 1862, when its buildings and grounds were occupied by United States troops for two years. It was reopened in 1867, closed again in 1874. In 1875, under the support of the Peabody fund, the normal department was made the Peabody Normal College for the South, which has had a steady progress, and to which, in 1888, W. H. Payne was elected president of the college and chancellor of the university.

The University of Tennessee began at Knoxville (1786) as Blount College, and in 1807 was changed in name to East Tennessee College. Its government college aid met the common fate, and yielded little to the college. Its lottery scheme also failed. In 1837–38, under the energetic administration of Jos. Eastbrook, it issued its first catalogue. Its name, East Tennessee University, was assumed in 1840, and in 1879 was changed by act of legislature to "University of Tennessee." Closed by the war, it was occupied by United States troops; in 1866 it was reopened with twenty students, and is now fully organized with departments—agricultural, horticultural, medical, and dental.

Vanderbilt University, under the control of the Methodist Episcopal Church, began its history as Central University (1858), and after various experiences, an important one of which was the opposition of Bishop Pierce, who believed that a Christian ministry could not be made in colleges, the higher views represented by Bishop Tyeire gained the endowment of half a million dollars from Cornelius Vanderbilt, which was increased by other donations aggregating $1,500,000. This endowment ended all denominational opposition, and established the university in its career of power and usefulness.

Other universities and colleges for whites are reported, the best known being Cumberland University at Lebanon and the University of the South at Sewanee; in all, eighteen for whites, twenty for women, and five for negroes, of which the best known for negroes is Fisk University at Nashville.

D. L. KIEHLE

UNIVERSITY OF MINNESOTA

NOTES ON NEW BOOKS

Mention of books in this place does not preclude extended critical notice hereafter

Kulpe's *Outlines of psychology*, translated by Professor Titchener of Cornell, is a lucid and scientific presentation of the subject, largely after the manner of Wundt. The first criticism to be passed upon it is that, in common with most publications of the same school of thought, it treats sensation at a length that is out of all proportion to its value or significance in mental life (New York: Macmillan & Co., 1895. 458 p. $3).——*The makers of modern Rome*, by Mrs. Oliphant, is a beautiful and fascinating book, that tells the story of Rome's material and spiritual greatness, from the fourth century to the time of the great Pope Leo X. (New York: Macmillan & Co., 1895. 618 p. $3).——Mr. Phelps of Yale contributes an edition of five of George Chapman's plays, with an introduction and notes, to the so-called Mermaid Series of the best plays of the old dramatist (New York: Charles Scribner's Sons [imported], 1895. 474 p. $1.25).——Dana's *Two years before the mast* and *Tom Brown's school days* are the latest additions to the well-made Riverside Literature Series (Boston: Houghton, Mifflin & Co., 1895. 470 p.; 364 p. 60 cents each).——Mr. Greenough White's *Outline of the philosophy of English literature*, of which the first part, dealing with the Middle Ages, has just appeared, cannot be used by anybody until the publishers take time to provide it with a table of contents and an index (Boston: Ginn & Co., 1895. 266 p. $1.10).——An admirable and inexpensive edition of Von Scheffel's famous romance, *Ekkehard*, has just been issued, with a capital introduction and full notes by Professor W. H. Carruth of the University of Kansas (New York: Henry Holt & Co., 1895. 495 p. $1.25).——The late Regius Professor of Modern History in the University of Cambridge, Sir John R. Seeley, left in type a luminous essay on the *Growth of British policy* that all students of English history will wish to read (New York: Macmillan & Co., 1895. 2 vols. 436, 402 p. $3.50).——*Studies in the evolutionary psychology of feeling* is an exhaustive essay in one of the most difficult and disputed branches of psychology (New York: Macmillan & Co., 1895. 392 p. $2.25).——Professor Morgan of Harvard adds an edition of *Eight orations of Lysias* to the well-known series of Greek authors edited by Professors White and Seymour. The editor's work, particularly the account of Athenian court practice, is extremely well done (Boston: Ginn & Co., 1895. 223 p. $1.50).——Professor Flagg of the University of California is responsible for a new and helpful edition of the *Lives of C. Nepos* (Boston: Leach, Shewell & Sanborn, 1895. 238 p. 90 cents).——With the fifth volume the English translation of Renan's great *History of the people of Greece* comes to an end. The work is too well known to need comment. The translation is not particularly good (Boston: Roberts Bros., 1895. 388 p. $2.50).——*Twenty-five letters on English authors*, by Mary Fisher, is, we are assured, the result of "a genuine correspondence," which has been printed for the edification of those who prefer an easy, familiar style to literary English. As a taste of its quality may be quoted a portion of the "living flesh and blood" which the authoress has filled in around the "mere skeleton work" of the usual text-book. Speaking of Pepys she says: "The poor little fellow!—I wonder if he was really little! I don't know. I only fancy he was little, and light-haired, with ruddy, round, fat cheeks, smooth as a girl's. But very likely he wasn't," etc., etc. Such literary criticism, whatever may be its value in a correspondence between friends, seems hardly worthy a reputable imprint (Chicago: S. C. Griggs & Co., 1895. 406 p. $1.00).——Tennyson's *In Memoriam*, edited by William J. Rolfe, contains the text of the poem, printed in clear type on good paper, and abundant notes. The name of the editor is a sufficient guarantee for the scholarly character of the explanatory matter. His acquaintance and correspondence with the poet and with the poet's son, the present Lord Tennyson, has given him possession of facts which throw light upon many allusions in the poem (Boston: Houghton, Mifflin & Co., 1895. 206 p. 50 cents).——The Eversley Series now contains Dean Church's valuable essay on *The beginning of the Middle Ages* (New York: Macmillan & Co., 1895. 269 p. $1.50).——A beautiful edition of the *Iliad*, edited by Leaf and Bayfield, and printed in what is called Macmillan Greek, with a complete apparatus of notes and illustrations, is now at the disposal of teachers and students of Greek (New York: Macmillan & Co., 1895. 567 p. $1.40).

VIII

EDITORIAL

Owing chiefly to the efforts of Vanderbilt University, a meeting of the leading Southern colleges was called in Atlanta early in November last, to consider the advisability of forming a college association similar to those of New England and the Middle States. Representatives were present from Vanderbilt, Tulane, Washington and Lee, University of the South (Sewanee), the State universities of North Carolina, Mississippi, Alabama, and Tennessee, and from Wofford, Trinity, and Mercer colleges. After some preliminary discussion, a committee was appointed to draft a constitution and by-laws. The report of this committee was tentatively accepted by the representatives present, it being understood that the association would finally consist of all those colleges which should by formal action of their faculties adopt the constitution. So far, only Vanderbilt and Sewanee have formally announced their acceptance ; but there is little reason to doubt that nearly all the colleges represented at the meeting, and others besides, will soon give in their adherence.

The constitution and by-laws are very similar to those of the Association of the Middle States, and require slight comment here. The requirements for admission in English are uniform with those of the Middle States. In some studies, notably in mathematics, the requirements are not up to what some of the institutions represented are at present demanding, but it was deemed best to render it possible for some other colleges to come in at once, with the hope that in a short time standards might be raised. It is the practically unanimous opinion of persons well informed about the state of Southern education that the formation of this Association is one of the most important steps that have been taken in that section for many years.

A convention of graduate student representatives was held on January 3 in Houston Hall of the University of Pennsylvania. Delegates were present, and participated in the discussion, from Barnard, Brown, Bryn Mawr, Chicago, City of New York, Clark, Columbia, Columbian University, Cornell, Harvard, Johns Hopkins, Michigan, Minnesota, Pennsylvania, Princeton, Radcliffe, Western Reserve, Wisconsin, and Yale. The convention was opened by a short address of welcome from Dr. George S. Fullerton, vice provost of the University of Pennsylvania, who spoke of the importance of the movement, and the attitude the governing bodies of the different universities should assume toward it. Mr. Joseph S. Walton of the University of Pennsylvania was chosen president of the convention, and Miss Annie C. Emery of Bryn Mawr, secretary.

The convention then discussed the following subjects:

1. A federation of graduate clubs. A committee was appointed to draft a constitution, which reported at the afternoon session, and a federation was formed. By the constitution, any organized club of graduate students is eligible to membership in the federation. The officers are a president, three vice presidents, a recording secretary, a corresponding secretary, and a treasurer, who constitute an executive committee. An editor-in-chief and associate editors, one from each college or university represented, constitute a committee on publication, and have entire control of the *Handbook of graduate courses*. They also have charge of any other publications authorized by the federation.

Any club eligible to membership in the federation is to be admitted on the recommendation of the executive committee, and by a majority vote of the delegates present at the annual convention. These delegates are governed by proportional representation. Each graduate club is entitled to one delegate-at-large, and to one additional delegate for every hundred graduate students enrolled at its college or university, or every fraction thereof over fifty.

Under the constitution the following officers were elected for the ensuing year: President, Frederic L. Luqueer of Columbia; vice presidents, Ellis A. Schnabel of Pennsylvania, J. F. Brown of Cornell, and Miss Kate O. Peterson of Radcliffe; recording secretary, B. H. Meyer of Wisconsin; corresponding secretary, Miss Bertha H. Putnam of Barnard; treasurer, E. P. Sheldon of Minnesota.

2. Publication of the *Handbook*. After discussion concerning

the value, the proper form, and the function of the *Handbook*, and the advisability of its being published by the colleges and universities themselves, instead of by the graduate clubs, it was decided that the graduate clubs should again undertake its publication; that Mr. Duniway of Harvard should again be editor-in-chief, and that he should again be assisted by a board of editors, as provided by the constitution.

3. Migration of graduate students. Professor Lamberton of Pennsylvania opened the discussion, noting the value of migration, but urging that it should be governed only by a desire to obtain the best possible advantages. He spoke strongly against the tendency of American students to go to foreign universities before they were able to profit from them. In the discussion that followed, it was found that statistics would be valuable, and a committee was appointed to investigate the whole subject, and to present at the next convention a detailed report, including any statistics of interest, and recommendations concerning such migration, both in America and abroad. The report will be published.

4. Standards for degrees. A discussion was held on the question of condemning without exception the granting of all honorary degrees. It was urged that such a condemnation was too sweeping, and that the convention should recognize the propriety of an institution granting honorary degrees in certain very rare and exceptional instances. It was also suggested that certain definite degrees be set aside as honorary, so as to avoid any confusion with degrees in course. It was suggested also that the two ordinary course degrees, A. M. and Ph. D., should represent two important classes of graduate students; the Ph. D. degree to be given to the highly gifted and specialized student, and the A. M. to the advanced student in more than one department, who would fill admirably the teaching positions in the public high schools and other secondary institutions. The whole matter was then referred to a committee, to report at the next convention.

In the evening a reception was tendered the visiting delegates by the local club. Addresses were delivered by Dr. James H. Robinson, professor of European history in Columbia College, and Dr. Isaac Sharpless, president of Haverford College. Dr. Robinson spoke strongly against the rush of second-rate institutions into post-graduate work, without the necessary equipment. He spoke of the importance of adequate library facilities to do post-graduate work, and of the need of a higher standard. Dr. Sharpless outlined the proper sphere of the college, and explained the lack of uniformity in post-graduate work by the difference in the value of baccalaureate degrees. He urged the higher universities to require a uniformly high standard for the bachelor degree, and make a distinction in the acceptance of this degree according to the standard of the institution by which it is given. This, he said, would be better than legislation.

During the month of January the annual reports of the presidents of two leading American universities—Johns Hopkins and Columbia—were given to the public. Taken together, the two institutions had no fewer than 1018 college-trained students under instruction in 1894–95, Columbia furnishing 649 to this total, and Johns Hopkins furnishing 369. Were it not for the professional schools at Columbia, however, the Johns Hopkins would be largely in the lead, since at the former institution the number of college-trained students carrying on higher studies in the arts and sciences was only 184.

The most important event of the year included in President Gilman's report is the sale of the Clifton estate, left to the university by Mr. Hopkins at his death, to the city of Baltimore for a public park. The consideration is $710,000, which amount is thus added to the productive funds of the university. President Gilman's twenty years of brilliant service to higher education in America may well be judged by the test that he proposes in the present report: "The success of this foundation depends not upon the number of our students, but upon the tokens of public confidence, on the quality of the professors and teachers who are here engaged, and on the enthusiasm, industry, and talent of their pupils."

President Low's report is a more elaborate document than President Gilman's, and, after a tribute to the character and services of the late Professor Merriam, reviews the work of Columbia, both college and university, during the year. The statistics given are proof that the college has not grown in public confidence for some years past; a fact which is doubtless to be attributed, as is hinted at in the accompanying report of the dean, to its unsatisfactory course of study. This, it is understood, is now undergoing a thorough revision, and a substantial increase in the number of students may be expected. The significant fact is cited that, in three years, the number of Columbia College graduates continuing in the university has risen from thirty-seven to sixty-eight. No better proof of the value of college and university existing on the same foundation could be given. The very full deans' reports show in detail how the work of the university is carried on.

Columbia, like Harvard, makes public an annual financial statement; something that every incorporated educational institution ought to be compelled to do. From this it appears that the income for the year ending June 30, 1895, was $773,662.10. Of this amount, $386,256 was received from rentals; $290,834.14, from fees of students; $38,837.28, from gifts for current uses, and $50,512.45, from interest and sundries. For this same period the expenditure was $753,649.74. During the year $188,000 was received by gift for other than current uses.

The third International Congress of Psychology will be held at Munich, August 4–7, 1896. Professor Lipps of the University of Munich is chairman of the local committee of arrangements, and no effort will be spared to make the meeting a successful and noteworthy one. All psychologists, and all persons interested in psychology, are invited to be present and take part in the proceedings. A small membership fee will be charged. Detailed information and copies of the prospectus may be had on application to the general secretary, Dr. Frhr. von Schrenck-Notzing; Max Josephstrasse, 2[1], Munich.

At Oxford Mr. William John Courthope, M. A., of New College, has been chosen, without opposition, to the Chair of Poetry, in succession to Mr. F. T. Palgrave, who, having held the professorship for a second quinquennial term of office, was ineligible for re-election.

Lord Bute has been re-elected to the Lord Rectorship of St. Andrew's University, receiving 120 votes to 80 recorded in favor of Lord Peel, who is better known as the ex-Speaker of the House of Commons.

The death of Dr. Norman A Calkins, Assistant Superintendent of schools in the city of New York, on December 22, 1895, removes one of the best-known elementary school teachers in the United States. By his activity in the National Educational Association and by his devotion to its interests he made for himself a wide circle of friends throughout the country and won a place in their affections. His careful, conservative judgment and his unswerving fidelity made him an adviser and superintendent of unusual value. Of all the four thousand and more teachers in the public schools of New York city Dr. Calkins alone had a national reputation. His loss will be severely felt both in New York and by the National Educational Association.

CHARTER MEMBERS OF THE EDUCATIONAL PRESS ASSOCIATION OF AMERICA.

Paper.	*Post Office.*
American Teacher,	Boston, Mass.
American School Board Journal,	Milwaukee, Wis.
Colorado School Journal,	Denver, Colo.
Educational Review,	New York, N. Y.
Education,	Boston, Mass.
Iowa Normal Monthly,	Dubuque, Ia.
Michigan Moderator,	Lansing, Mich.
New England Journal of Education,	Boston, Mass.
Northwestern Journal of Education,	Lincoln, Neb.
Ohio Educational Monthly,	Columbus, O.
Primary Education,	Boston, Mass.
Primary School,	New York, N. Y.
Popular Educator,	Boston, Mass.
Public School Journal,	Bloomington, Ill.
Pennsylvania School Journal,	Lancaster, Pa.
School Review,	Hamilton, N. Y.
School Bulletin,	Syracuse, N. Y.
School Education,	Minneapolis, Minn.
School Journal,	New York, N. Y.
Teachers Institute,	New York, N. Y.
Texas School Journal,	Austin, Tex.
Western School Journal,	Topeka, Kan.

EDUCATIONAL REVIEW

MARCH, 1896

I

THE OLD AND THE NEW PEDAGOGY IN GERMANY

> Man is most interesting to man and should perhaps be his only interest. All else that surrounds us is either the means of life or the instruments which we use.—GOETHE.

This expression of Goethe's leads at once into the center of the problem of education. For if man is most interesting to man, it is evident that the growing man and not the mature man should claim our attention. When we meet a mature individual, the question naturally arises, How may this person have developed himself? Our interest turns at once to the innate germs to be unfolded, to the external influences determining his formation, and to the time of his development. The great problem presents itself, how much of the development of the man can be ascribed to necessity, how much to freedom, how much to nature and how much to art, and what has come from heredity and what from acquisition? When we consider that society is composed of individuals, the problem becomes still more comprehensive and more difficult. Then it is of value to trace the relation of the influences which acted through the centuries between the older and the younger generations, and to consider the question as to how far the power of education has affected the process. Concerning the efficiency of this power one may think as he will: but one thing is indisputed; viz.: that education is a result neither of blind necessity nor of unlimited freedom, and that it is able to exercise a determining influence on the development of the moral energies which extend through the chain of generations. How could political leaders, church officials, and laymen of all sorts take charge of the educative influences if they did not believe in the efficacy of education?

In fact, the successive generations have always endeavored with more or less consciousness to make the growing youth the same as themselves. At the same time philosophers and teachers have consciously unfolded their plans, hoping for their realization in the coming generation. In this way Plato expected the realization of his social ideals by the elevation of the growing generation to a higher plane. Rousseau desired to bring about a renovation of society by the improvement of education and instruction, in agreement with the saying of Leibniz: *Si l'on réformait l'éducation l'on réformerait le genre humain.* Fichte, grasping the ideas of Pestalozzi, expected a new birth of the nation through national education. Luther desired that the reformation of the Church should begin with the children, just as now the hope of Germanizing the province of Alsace lies in the education of its youth. So to-day education, and especially public education, is called upon to be the ally and support of the state and the Church. The state desires to bring school education into the field against the destructive elements which threaten to undermine the government; the Church desires, through religious instruction, to redeem what it has lost with the people. But all this is in vain. Although the school is able to instill new thoughts into the minds of the young which can serve as a guide to posterity, its influence will prove powerless if it is used as an instrument by existing institutions against the natural tendencies of the people.

It is very bad indeed when the school is drawn into strife. For the school is a place of peace. In it the artist, and not the fighter, should rule. The waves of contention should break at the threshold, since the youth prospers best in the atmosphere of peace; he should there remain until he is strong and independent in the consciousness of a present moral and religious personality, and is filled with patriotic love for his country's civilization. But there are times when certain strong movements make themselves felt against existing conditions. In such times the most important task is to so influence the growing youth by school education that they guarantee the support of the state and the Church. And with this condition it is not surprising that the rulers of the state, and also of the Church, should try to compel the growing youth to follow the directions of their own thought. Whether this can be accomplished or not, must be considered farther. First of all, we should remember that in human circumstances all strong tendencies produce not only strife but opposite tendencies. I remember the radical political and religious views of many public school teachers which were the result of contrary tendencies in the teacher's seminaries. Persons allow themselves to be driven to a certain degree, but they cannot be compelled to change their ideas. No orders of a sovereign can affect the deepest thoughts, and the most energetic and violent pressing of a sovereign's orders could not change the ideas of the people. This is the tragic moment for those who have the power; they can indeed kill persons, but not ideas. Ideas have shown themselves stronger than entire generations of sovereigns.

But shall everything be left to education? Is every newly arisen idea to be welcomed? By no means. Education should hold itself aloof from taking any part in political and religious strife. Education should hold itself to the permanent, that which attests time and in the stream of development forms a solid foundation on which the foot may firmly rest.

What is the permanent? Is it that which the old pedagogy has left us? Certainly, but only to a limited extent. Goethe, in the Pedagogical Province of *Wilhelm Meister's Wanderjahre*, considered reverence as the ground-principle of the entire education, and we must agree with him. For education aims at culture, and a characteristic of true culture is, before all else, a reverence for that which has been regarded worthy by all generations and in all times. In this way education holds itself free from frivolous contempt as well as from ruts. Inspired by the feeling that has its roots in a soil prepared by countless generations, education stands free to judge and prove every prejudice against the treasures of culture; examining what has come to us from state, Church, and society in order that we may continually push forward to a more complete development of culture.

Here we find the great difference between the old and the new pedagogy. The former went so far as to acquire knowledge for the sake of knowledge, and sought to do no more. The latter puts these traditions below the higher ideal of the formation of character. This idea is the central light from which all educative and instructive measures are illuminated. In this central idea are being collected all the tendencies that will place education in its proper light. The state has a right to expect that the schools educate for good citizenship; but it has no right to demand that they instruct partisans. The Church can also require that faithful believers in the Kingdom of Heaven should come from the schools, but it should not ask that such pupils swear allegiance to an exact theological system.

For our schools should have but one aim, *i. e.*, the formation of moral-religious character; they should as much as possible lay a firm foundation for the formation of character. This principal aim is without any special tendency. Neither political partisans nor believers in a fixed church creed; neither egotistical men of the world nor worshipers of barren ideals, will we educate, but true men, filled with great moral ideas, in whom are deeply implanted the truths taught by the development of humanity, and who recognize the genuine aims of culture.

This is worthy of remark. The present education seeks to realize ideals, but the result appears, as is often complained of, to be just the opposite: a generation without an aim. In former times the proper aim of education, the formation of character, was not considered; the youth were instructed, and the result was a generation of many ideals. Shall we say that it is a law of life that when any people begins to lower its moral ideals, the demand for an ideally arranged education is stronger than when the soul of a people does not know anything of selfishness and eagerness for gold, and when the people themselves strive after the highest, driven toward it by inner necessity? If voices are heard which, in times of a people's decline, cry against the dangers of the time concerning an ideal education as a remedy, we would be tempted to accept the truth of the law, but would also at once doubt whether education could accomplish anything where the atmosphere of the family and society is already infected; where a continued opposition exists between the course of the school and the materialistic tendency of the home.

The old pedagogy had evidently the lighter task. Its spirit existed in the spirit of society. Many sins could it commit in the school without injuring the soul of the pupil, since it would always recoup itself through the power of the family. Now, since great disturbances have passed through our nation and have crippled it here and there, or at least threatened to cripple it, should the educative power of the school be called upon to repair it? The new pedagogy realizes the difficulty of its task, and all its utterances culminate in this thought of moral education, and instruction as serviceable to this end.

However, many people look upon this beginning very skeptically. Many claim, referring to the law of the so-called necessary reaction, that any two succeeding generations really differ in their inclinations. Therefore, the influence of the older generation on the younger would be essentially negative. It is pointed out that pupils of special talent generally develop in opposition to their teachers. These gifted pupils win, then, a noticeable influence over their contemporaries, as men of deeds, artists, and writers—an influence similar to that produced on the great stage of the world. Thus the first Christians had enjoyed a Jewish education, the first Humanists a Scholastic, and the first Reformers a Catholic. Therefore it is often considered a vain endeavor to attempt to influence an entire people or its youth by education.

I am not of that opinion. Even as impossible as it would be to draw the exact line between the effect of the outward influences and the inherited talents of an individual, so impossible would it be to fix the exact boundary between the influence of a previous generation on a later and what the latter produces from itself. The reciprocal action is such an intimate one that the wisdom of a god would be necessary to unravel the much-complicated texture, and to pursue the endless connection between educative influence and innate power to the last rootlets. It is sufficient that both the old and the new pedagogy presuppose the possibility of education. How could we otherwise attempt to form a system of education, if we could not presuppose some correct application? The conception of the power to educate has always stood first in pedagogical discussions. But the new pedagogy is perhaps more moderate in its expectations. When Helvetius said that the pupil is entirely the product of the influences that education has made him; when Fichte said: "If you will influence a man you must do more than simply talk to him. You must make him, and also make him so that he cannot do otherwise than you will have him do,"—they showed a noble enthusiasm for education that is not entirely sustained by the facts. On the other hand, the new pedagogy will avoid going to the other extreme and considering the pupil as a product of heredity only. All other influences are judged from this standpoint; were the nature of the individual permanently fixed, all influences would not serve to overcome such unchangeable conditions.

Even if the influence of the growing generation cannot be calculated with exactness, the effect of education is yet powerful enough to be considered as a factor in the life of the individual as well as the life of society. It is a historical force whose effect sometimes seems to be drawn from strong influences, but which continues to operate in the depths of human nature. In spite of Luther's revolutionary tendencies he still remained a good Catholic; it is known how in his later years the influences of his early education exhibited themselves ever more strongly. Germany's great chancellor, Bismarck, has also remained intensely conservative notwithstanding the great revolutions that he produced. We may compare the ideals and also the actions of men concerned in great social upheavals, and in their old age it will be noticed that the impressions of their youth have always influenced their thoughts and deeds. So education produces its effects on a generation which is the promoter of historical progress. And when it is the intention that exact and lasting thoughts should be introduced into the life of the growing generation, then the power of education becomes evident.

Therefore, if we wish to attempt an explanation of these phenomena, we must collect the incidents and weave the important factors in the lives of the people into a systematic whole, according to fixed principles which are observable in the individual and which give an exact direction to all means of education. The first who did this was the philosopher Johann Friedrich Herbart. The new pedagogy in Germany dates from him. It swerved neither to one side into the track of the state pedagogy, nor to the other into that of the Church pedagogy. It is conservative in so far as its roots are sunk deep into the national and Christian soil, and it continues to spin the historical thread. It is reformatory in so far as it does not hold to that which has grown up, simply because it exists, but tries to weed out all things that do not live any more in the people and that are being carried as dead weight. The measure for the determination of these things which still live, and those which lead only a pretended life, is ethics. It is therefore purely social, since it attempts to understand the life of the individual only from the standpoint of institutional life. What of lasting worth and permanent usefulness is gained in the intellectual development of mankind, crystallizes itself into certain ethical ideas, whose realization in the life of the individual, as in society, rises before us as the absolute aim of education. Therefore, since the new pedagogy derives its aim of education from ethics, it establishes an aim that may claim recognition on account of its ethical necessity, its constant firmness, and its inward excellence—an aim that does not change with the altering opinions of good and evil, that does not give way blindly to any philosophy of fashion, but lasts through the ages, for it embraces that which makes true worth in the life of mankind, and shows us an aim that rests in its own true sublimity—the ideal of youth.

But the method which directs us to the realization of these ideals in the hearts of our youth, the men of pedagogy derive from the laws of life, in order to find some certain way: this is the psychological method. The true freedom of education is secured by establishing a fixed aim and exact modes of procedure; *i. e.*, education is then free from the flitting ideals of the time and the changeable follies of fashion. This places education on a higher plane than it has previously been upon or could be upon.

Indeed, the aim of education as it was at the time of Christ cannot be surpassed, but it has been darkened, weakened, and suppressed very often to accommodate itself to ecclesiastical and worldly views of all kinds, which were put forward by the ruling factions. The pedagogy of our day has first of all the task of establishing and making clear the purity and unimpeachableness of moral testimonies which have lasted through centuries and marked out the direction for the development of mankind. In so far it is conservative in the true sense of the word; but it is reformatory in that it searches for the best methods of procedure in instruction. And it will the better succeed the more psychology follows the development of the growing mind, in order to throw new light upon the soul's growth. The unity of the whole is guaranteed by the pure ethical aim which forms the center of the sublime thought of education, around which move all the influences of the rising generation. The aim of education and the purpose of instruction are distinctly separated, but the dependence of the latter on the former is shown in so far as the purpose of instruction is derived from the aim of education. From the aim of education comes the demand for instruction which forms character; this places in the first rank, not the knowing of many facts, but the awakening of a strong, permanent, and many-sided interest. Only the latter can give true culture; the former alone cannot arouse man out of barbarism and stupidity. Our schools, which have worked with their entire machinery of examination, inspection, and so forth, for the accumulation of unrelated knowledge, have gone in a wrong direction. This can be corrected only by instruction properly understood, the aim of which is the formation of moral character. But we cannot emphasize strongly enough that the ideal of education in the new pedagogy is not only a development of the intellectual activities, but especially an idea of the development of the moral and emotional nature. The education of the will is the chief aim: the education of intellect and of feeling are only helps to it. Without doubt the will is the most important aspect in the sphere of spiritual life, the most important of the inner activities, the supporter of the ethical value of the individual. Since the time of Kant this fact has ever become clearer, and with its recognition pedagogy has seen more clearly where its exertions are to be directed.

From a pure, exact, and high conception of the aim of education there must also arise a correct valuation of the means of education. The formula of Pestalozzi—number, form, and language—has lost its power; culture-history has become the ruling subject in its place. Therefore, two great advantages are guaranteed: the gift of valuable material for the growing generation, and a dovetailed and intimate connection between the development of the individual and the development of the social whole.

Since we understand what is meant by a complete personality and the indispensable preliminary conditions for the origin of proper springs of action, therefore the way is prepared and the new pedagogy can approach nearer to the solution of the problem of a course of study, and can give the conditions for the establishment of our intellectual organization. The problem could not be begun before the aim of education was clearly and sharply comprehended, and the task of instruction was seen in the right light.

From the idea of apperception, then, the new pedagogy attempts to unveil the process of learning in its true nature, and bring the acquired principles into immediate use. Herein lies the greatest practical value for the real work of instruction.

Were this only correctly recognized by those who are occupied with the education of the people! The mere accumulation of knowledge proves itself powerless, indeed even hurtful, in the battles against great miseries. The inculcation of a pure and beautiful disposition can alone help to dispel all the unfair and pernicious annoyances that deform the life of the people in these days. Therefore is the new pedagogy, by its devotedness to the conception of the moral ideas, permeating society, and to the ideal forms of human individuality most assuredly a great benefactress.

Truly a *system* of education, if it were the most perfect, could not accomplish this alone. In order that instruction may be made effective on the growing generation, teachers are necessary, who, permeated by the truth and sublimity of pedagogical science, at the same time possess an artistic skill that enables them to make their labors effective on the youth. How often the plans of prominent rulers and statesmen have failed because the persons intrusted with the execution of these plans did not fully comprehend the spirit and the leading ideas of the leader, and therefore did not shape things to effectiveness! The old contrast between conception and execution is especially noticeable in the sphere of pedagogy. To bridge over this difficulty the new pedagogy has interested itself with the question of the best preparation of our teachers, while in former times this question was passed over with remarkable equanimity. Only have the knowledge, and the ability to teach will come of itself: have the mind and know how to awake mind; these and other imperatives were heard that arose either from a boundless presumption or great indiscretion. But the demands of the time continued to call for better preparation in all the walks of life, and it also called for a better education of the teachers. But in reality the demands of pedagogy were not plainly heard. In the first place it has been overlooked that the central point of intellectual culture, our universities, must also comprehend among their tasks the education of the teachers of our people, since they look at the organization of our culture with a broad view, and should overcome the drudgery of teaching with technical skill and devoted enthusiasm. This view is obscured by a false conception of our universities and their duties. The universities of America are much freer and less prejudiced in this as in many other relations. It will not be long till they have surpassed us, since they have established chairs of pedagogy which will direct the development of the whole country.

There are no such conditions with us. But if we look at the progress which the new pedagogy has made over the old, so may we hope that the coming years will reveal what seems to be entirely closed to the understanding of the present.

With Lessing's thesis concerning the education of mankind, with Schiller's letters regarding ethical education, with Goethe's great didactic novels, with Fichte's addresses to the German nation, and with Herbart's general pedagogy a new epoch in pedagogical science was introduced, in whose completion the present is occupied, not in the sense of dead knowledge which rejoices in the storing up of many books, but in the direction of a power permeating the lives of the people that must and will make its influence felt on the formation of the growing generation.

WILHELM REIN

JENA, GERMANY

Other articles on education in Germany have appeared in the EDUCATIONAL REVIEW, as follows: The German Emperor's Address to the Commission on School Reform (February, 1891); Adolf Diesterweg, by Heinrich Cassel (April, 1891); Contemporary educational thought in Prussia, by Friedrich Kirchner (May, 1891); Impressions of German schools, by John T. Prince (October, 1891); The Prussian Elementary Education Bill, by Nicholas Murray Butler (April, 1892); Contemporary educational thought in Germany, by Ernst von Sallwürk (April, 1893); The universities of Germany, by Professor E. D. Perry (March, 1894); Educational problems in Europe, by Nicholas Murray Butler (April, 1894); Contemporary educational thought in Germany, by Wilhelm Rein (May, 1894); A school journey, by C. C. Van Liew (June, 1894); Friedrich Paulsen (with portrait), by A. W. Shaw (November, 1894).

II

SOME POLITICAL PRINCIPLES APPLIED TO EDUCATION

The past two years have been prolific in descriptions and discussions of the American educational system on the part of the many distinguished foreigners who attended the educational congresses in Chicago in 1893. The characteristic feature of American education is, in their eyes, its lack of system: everywhere they find confusion and chaos, a labyrinth without the silken thread to guide them through its mazes.

It is easy to reply to such criticisms that they are but superficial—the product of a six weeks' or a three months' hurried journey through the Atlantic cities. But the criticism, even if founded on imperfect knowledge, cannot be lightly dismissed. It has been good for us to have the mirror held up to nature's face in a social and a political way; it is not less desirable to see ourselves as others see us in an educational way. But a candid examination of educational affairs in this country must lead to the conclusion that there is abundant ground for this judgment of our visitors. Confusion does exist, and order can be brought out of chaos only by a recognition of this fact. The sources of this confusion are many; two only will be mentioned.

The first is found in the fact that there are in America forty-five State educational systems existing side by side, each independent of the other, and all differing alike in the principles on which they are based and in the details with which they are administered.

This seems at first thought like a repetition of our political system with its forty-five different State governments, each supreme in its own sphere and all admirably adapted to serve their own political ends. But there are radical differences. Our political system consists of a large number of wheels within wheels, all so carefully adjusted as to avoid derangement on the one hand and to secure on the other the greatest possible efficiency of administration. Not only does the mutual relation between the State governments and the national government prevent confusion, but the nice balance between the centrifugal and the centripetal forces secures that exact equilibrium from which the perfect political circle results. The States are supreme within their own spheres, but by the fundamental law of the land their laws must be in general conformity, not in opposition, to those of the national government. It is not possible for a State government to pass an *ex post facto* law or a bill of attainder so long as the United States Constitution expressly forbids such measures on the part either of the national Congress or of the individual States. Moreover, there is in many instances a tendency toward a general uniformity of State law and custom even on matters not specified, as in the universal practice of holding State elections in November and in the method of choosing presidential electors. The present tendency is apparently in the direction of still greater uniformity.

But in education there is no parallel. Not only is there no national system by which those of the States may be measured, but there is no uniformity among the different States themselves. Moreover, there is the greatest diversity of custom within the same State. Each local community, each private school, each college within a State is free to manage its own affairs as it pleases. The result of this is endless confusion. One illustration may be drawn from the college world. Not only is there no uniformity of State law in regard to what shall constitute a college, but strange anomalies are found within the same State. New York has within its borders Columbia College with property amounting to $15,000,000 and Cornell University with its $7,000,000, but until within four years it has been possible for ordinary, advanced, and honorary degrees to be conferred in New York by so-called colleges not only having not one penny of endowment, but actually bankrupt. The law of 1892 now makes it impossible for any institution to be incorporated in the State with the power to confer degrees unless it has resources amounting to at least $500,000. In the State of Indiana, a few years since, an institution was incorporated with degree-conferring powers, having a total endowment of $10,000. In another locality the citizens of the town met and decided that the interests of the place would be furthered by the establishment of a college. It was thereupon voted that $50,000 be raised for that purpose. In a large religious body a few years since the establishment of a university controlled by the denomination was urged. "Let us have the largest and finest university in the country," exclaimed one enthusiastic member, "even if we have to raise $500,000 for it." It is not without reason that colleges with endowments ranging from $5,000,000 to $20,000,000 complain that the degree-conferring power is granted to institutions whose equipment for work is represented by $10,000.

Another illustration of this confusion, growing out of the *laissez-faire* policy of each State, is found in the ill-defined powers of the governing boards of colleges. In some cases such boards have general control of the educational policy of the institutions under their care, in others they are its financial administrators, in others their functions are purely ornamental. Moreover, in general, such governing boards are practically irresponsible. If a trustee is guilty of embezzlement, he is tried by the civil law of the State. But no matter how serious his mismanagement, if it fall short of an actual violation of the law, there is no way of calling him to account for it. Every governing board therefore makes as well as administers and interprets its own laws, without the safeguard found in the English Constitution of remaining in office only so long as it can retain on its side the majority of its constituents. In the tenure of office also there is lacking the safeguard of "during good-behavior" that always accompanies a political life position.

In a similar way each college, in its external administration, is a law unto itself. It determines its own entrance requirements, arranges its own curriculum, and grants degrees practically as it pleases, though under the nominal authority of the

State. Each college also, in its own internal administration, develops its government according to its individual will. It may be governed by its president, ruling as an absolute monarch, or the faculty may constitute an advisory body. It may be wholly without an executive head and governed by its faculty on the principles of pure democracy. The student body may in its turn exemplify the principle of extreme individualism, as in one institution where the intensely critical spirit prevails, while the opposite principle may be found in a neighboring college whose students are its "thick and thin" supporters.

The college thus represents extreme local independence, both in its relation to the State, in its governing body, in its external and internal methods of administration, and in the political spirit developed within the student body. It resembles the old New England town meeting and the Southern plantation in being a unit in itself, without necessary organic connection with other similar units. It is an educational separatist.

The first cause of confusion in the educational world, therefore, seems to be the existence, side by side, of so many entirely different State systems of education, with the resulting local independence of each educational community.

A second cause of this confusion grows out of the lack of an interstate educational citizenship. In the political world a resident of Rhode Island may without let or hindrance become a resident of Georgia, and a citizen of South Carolina become a citizen of California. The Constitution of the United States not only defines citizenship, but, like the previous Articles of Confederation, it assures to the citizens of each State the privileges and immunities of citizens in the several States. But the educational system has nothing corresponding to this, for we lack as yet a basis for a similar educational citizenship. It is now, as a rule, impossible for a student to be transferred from one college to another, grade for grade; indeed, it seems to be the policy of many colleges to make entrance as difficult as possible for students who come from other institutions. Yet it is often the case that the best students in a class desire to change colleges with the object of broadening their educational horizon, and the claim practically advanced by very many colleges that their standards are higher than those of other institutions is an untenable one.

It is not difficult to find the historical origin of this condition of confusion. It comes, first of all, from the spirit of excessive individualism that controlled our early political life. The town meeting in New England, and the plantation at the South, were the isolated political units out of which was developed that political life that grew restive under all external control. Since 1607 and 1620 political aims and ideals in America have undergone a radical change. The isolated town or plantation has developed into a colony, the colony into a State, and the political horizon of the State is no longer measured by its own boundary lines. Out of an inorganic agglomeration of political units has been developed a strong, compact, organic union, having a vigorous national life.

The development of our educational system has not kept pace with this political development. The excessive individualism that found expression in the Whisky Insurrection in Pennsylvania, in the Virginia and Kentucky Resolutions, in the opposition throughout New England to the policy of the Government in the war of 1812 and the events immediately preceding it, in the Nullification Ordinance of South Carolina, and, later, in the secession of the Southern States, still has its counterpart to-day in the educational world. Excessive individualism everywhere prevails, and with the same results as in the political world. The New England town meeting and the Southern plantation were self-centered in their interests—the same spirit to-day is found almost universally in the college world. There is a lack of familiarity in many colleges, not only with the actual work done in other institutions, but even with their ideals and with the *personnel* of their faculties. A few illustrations may suggest this fact. Two Harvard graduates, one a Harvard professor and the other also a professor in a well-known college, were recently shown through the buildings of a woman's college. At the close of their visit their guide said to them, "There are really, you know, but two places in this country where one can get a real college education, here and at X. [naming a neighboring college for men, not in Massachusetts]." A prominent college president not long since gave an address on the higher education of women. His statements in regard to it were based on a single visit he had paid to one college for women twenty years before, although he lived within a stone's throw of two well-known colleges for women. Two professors working in the same subject, who had been connected for ten years with colleges only fifty miles apart, were recently introduced to each other in a neighboring town.

One result of this lack of educational hospitality is that by it every institution is put on the defensive. It leads to the spirit that says, "We have as good advantages as other institutions," not to the one that says, "Is this institution as good as it can be made?" Our magazines teem with articles on American colleges and universities, all written, however, by persons connected with the college of which they write, and therefore written in this defensive spirit. The desire to seek the truth, whatever its results may be, does not seem always to be present.

We are fast outgrowing this provincialism politically. We go abroad for a comparative study of European political systems; we investigate municipal government in London, Glasgow, Dresden, and Berlin; every college offers courses in the methods of government found in England, France, and Germany; even the spirit that boards an incoming Atlantic steamer bearing a distinguished visitor and asks, "What do you think of America?" is but the expression of the desire to measure ourselves politically by other standards than our own.

It is true that something has also been done to lessen the grasp that educational provincialism has on our colleges. It has been diminished through the presence of large numbers of American students in foreign universities; although many times they have returned with their horizon broadened toward the East, but not toward the West or the South. Their outlook is still toward an arc, not the circumference of the educational circle. Much has also been done in the same direction through the presence of large numbers of Southern students in Northern colleges and the frequency with which Western students go East for their education. But all this is little in comparison with what still remains to be done.

Three things are suggested by the consideration of the subject thus far :

First, our educational system has lagged far behind our political system in its development. Second, it is impossible for our educational and political systems to develop at right angles to each other. Third, the further development of our educational system must be along a line parallel with our political growth.

That our educational system has thus far, in the main, been developing along the same lines as our political system, though at a halting pace, is seen from its retention or adoption of political methods that have been abandoned. It was, for example, a constitutional requirement in the colony of Connecticut, until 1662, that the governor of the State should be "a member of some approved congregation," and although this qualification was not legally enforced after that year, public opinion enforced it until 1809. But it has been scarcely more than a generation since a tacit, if not an acknowledged, requirement has been that a college president should be a clergyman. In more than one college the requirement still holds. It is half a century since Andrew Jackson introduced the spoils system into American politics, and twenty-five years since the first determined opposition to that system began. Its introduction into the educational system has been a later growth, and as yet scarcely an attempt has been made to dislodge it. Ten years ago a superintendent of public instruction was elected by the New York State legislature, and the daily papers announced, as his chief qualification for the position, that he had always served well the interests of the Republican party. A successor was subsequently elected whose only qualification for the office was the fact that he was the political lackey of the politician who dictated the election. The Regents of the University of the State of New York have often been men whom their political party has delighted to honor. In the Tammany camp in New York City two years ago trouble was brewing between two leaders, in spite of the fact that four sisters of one had secured places as teachers in the New York schools through the influence of the other. A few years since the resignation of the superintendent of schools in a large city in Indiana was requested on the ground that he was a Republican while the majority of the board of education was Democratic; it was necessary, therefore, that the superintendence of the teaching of grammar, arithmetic, and geography should be done after approved Democratic rather than Republican methods. Two and a half years ago the city superintendent of the San Francisco schools wrote: "The weakest point in our school system is the method of electing teachers. It is purely a system of 'personal patronage.' It is an outgrowth of the 'spoils system' in politics. It took root about fifteen years ago, and it has grown worse year by year." It has in fact too often come to be a prevailing theory in the public-school system that anyone with political influence knows how to teach. Even in higher educational institutions the same principle often prevails, and men are elected college presidents who have had no educational experience whatever. Occasionally it happens that a successful business man, a distinguished clergyman, or an eminent political leader becomes equally successful in educational lines, but such are the exceptions that prove the rule.

Not only has the spoils system been adopted from the political field, but "protection to home industries" has also been naturalized. This leads to the rule that only residents of the town shall be appointed teachers in the city schools, and that all college officers shall be graduates of the college to which they are appointed.

The political theory that every poor man has a right to share in the wealth flowing from the public treasury, but that, after satisfying his own necessities, he must "give someone else a chance," has its counterpart in the prohibition against employing as teachers two or more members from the same family, against employing married women if their husbands are able to support them, as the phrase is; and, in general, against giving any position to one who does not need the salary as a means of self-support.

The introduction of these principles into our political system has often checked a broad and vigorous development—they are even more pernicious in the educational world, where their results are intangible and cannot be combated.

The second conclusion has been stated to be the impossibility of developing an educational and a political system at right angles to each other. The attempt inevitably results in friction, yet, in spite of this fact, it is repeatedly made, and sound political principles are cast aside in favor of contradictory educational ones. Several illustrations of this principle may be given. One of our fundamental political principles is universal manhood suffrage. Every man has the opportunity of voting for the mayor of his city, for his representative in Congress, and indirectly for the president of the United States. But college faculties do not choose their own president, they have no vote in the election of college trustees who are to rule over them, and it is seldom that they have a voice in the election of those who are to be their colleagues. They are educationally disfranchised in a country one of whose corner stones is universal political suffrage. An exception is found in the great State universities whose regents are elected by popular vote, and it is one reason for believing that these universities are more in harmony with public opinion than are privately endowed institutions, which are usually managed as close corporations. Another violation of an universally accepted political principle is found in the establishment in a democratic country of absolute monarchy in college management. Not only are college faculties disfranchised in the matter of a choice of their superior officers, but they are often deprived of all initiative. The president rules absolutely, and by appointed, if not by divine, right. No more curious anomaly can be found than the existence in imperial Germany of self-governing, democratic communities, while in democratic America nearly every college is governed by an absolute monarch. Again, the student community is often kept in a state of tutelage through the exercise of excessive paternalism, with the result that it becomes weak and flabby in character; or, on the other hand, through lack of any control whatsoever, it loses all the sense of responsibility and lawlessness results. The best political results are obtained, on the other hand, so the American people believes, by granting a full measure of political liberty and holding the receivers responsible for its just use.

The adoption into the educational system of restricted suffrage, monarchical government, and the repression of individual liberty is at variance with all of our accepted political theories; and it is as fatal to vigorous educational growth as would be their introduction into our political life.

It is thus seen that education suffers on the one hand from the adoption of antiquated political methods which have never represented our highest political ideals, and from its attempt on the other hand to employ principles not in harmony with the generally accepted ideas of political government.

It suffers in a third way from its failure to recognize the value of other political principles the adoption of which might produce as admirable results here as they have done elsewhere. The most important of these principles is that of federation. It is this principle that lies at the root of our political expansion. It had its origin in America in the New England Confederation in 1643, and in the passage in the same year, by the Virginia legislature, of an act ratifying and regulating commerce with Maryland. The theory was at first crudely conceived and carried out, but it has grown and become perfected until we believe that under it we have secured the greatest efficiency in administration, and at the same time the largest amount of local liberty. The perfect political circle has resulted through it in the nice balancing of centralizing and decentralizing forces. The application of this political principle would do much to bring order out of our educational chaos.

Its first beneficial result would be to afford a means of settling the whole vexed question as to the relations between the colleges and the secondary schools; including the subjects of uniform standards for admission, the entrance to college by diploma from duly certified preparatory schools, and the mutual acceptance of entrance examinations. There is a growing tendency to admit students to college on the diploma or certificate of a secondary school, but so long as each college is irresponsible in its use of this privilege the gravest difficulties must arise. Students, moreover, may pass the entrance examinations of one college, but if they desire to enter another college of equal grade another examination is required.

Another gain would be found in the ease with which a student could pass from one college to another. We have much to learn from Germany in this regard. One of the strongest points in the German educational system is the fact that a student passes from one university to another, and receives credit for the lectures attended elsewhere from the university from which he finally receives his degree. Such a policy results in a far wider educational vision than is possible with us. A federation through which the students of all colleges within the federation could pass from one to another, grade for grade, would do more than anything else to lessen our present deplorable provincialism in education and to cultivate intellectual and educational hospitality.

A political federation does not mean absolute identity of custom, but it does mean harmony of custom. An educational federation would not reduce all institutions to the same dead level, but it would make it possible for all educational forces to act in harmony instead of counteracting each other as is now the case. The present tangent line of each college would coincide with the circumference of the general educational circle. The absolute local independence, and the resulting establishment of a thousand varying standards, would give way to a general flexible standard. Only thus can strength be secured. "We must all hang together or we shall all hang separately," were the words of Benjamin Franklin in the Continental Congress.

So perfectly has this system been developed politically that it is difficult to conceive of insurmountable objections to it educationally. Such a league might well be founded by the leading colleges and universities. It is true that all colleges could not be admitted to it, but as some parts of the United States have been left in the position of Territories until they have proved their right to statehood, so weak and inferior colleges could be refused admission until worthy of being received either through increased endowments, or improved facilities, or a raising of the standard of work. The effect of such a temporary refusal of admission would be to strengthen and improve the work in order to gain admission into the federation.

That such a federation must come in time seems inevitable. The germs of it already exist in the State university systems of the West, the New England Association of Colleges and Secondary Schools, the Association of the Colleges and Preparatory Schools of the Middle States and Maryland, the Association of Colleges of the North Central States, and the recently formed Association of the Colleges and Preparatory Schools of the Southern States. In still other ways a beginning has been made, as in the relation established between Chicago and its affiliated colleges, the recent conference between the Michigan Schoolmasters' Club and a committee of the Faculty of the University of Michigan, and the still more recent conference at Columbia College, February 1, of the representatives of leading Eastern colleges in regard to uniform requirements for admission to college. Something has also been done in the same direction through the formation of the Association of Collegiate Alumnæ, and a more hospitable college spirit has grown up through the organization of university clubs in all our large cities. Could there grow from these local federations, as yet purely advisory in character, a national federation with powers to initiate and carry out legislation in the interests of education in general, not of one college in particular, the present tangled lines of our educational system would speedily be straightened out.

Mr. E. J. Lowell, in his *Eve of the French revolution*, says, "It is characteristic of the European family of nations, as distinguished from the other great divisions of mankind, that among them different ideals of government and of life arise from time to time, and that, before the whole of a community has entirely adopted one set of principles, the more advanced thinkers are already passing on to another." The description may well apply to the relation between the political and the educational systems. Yet in methods of government it has been the representatives of the state, not those of education, who have been the advanced thinkers and have passed on to higher ideals. The leaders of the political world have abandoned as no longer tenable the theories of absolute monarchy, restricted suffrage, political separatism, unrestricted power, and the doctrine that "to the victors belong the spoils." But though the hold of these theories on education is still strong, there is reason to hope that it is weakening, and that, before many years have elapsed, an harmonious development of the educational and political systems along parallel, not divergent, lines will have begun; that order will have come out of chaos; and that with the extension of educational suffrage, the modification of absolute monarchy, and above all, with the adoption of the principle of national educational federation, education, like politics, will have passed on to higher ideals and greater achievements.

LUCY M. SALMON

VASSAR COLLEGE,
POUGHKEEPSIE, N. Y.

Other articles by Miss Salmon have appeared in the EDUCATIONAL REVIEW, as follows: The teaching of history in elementary schools (May, 1891); Different methods of admission to college (October, 1893); The college commencement (May, 1895).

III

AIDS TO GOOD CITIZENSHIP

A Herbartian watchword, to which all school men assent whatever their attitude toward Herbartian metaphysics, is, Educate for citizenship. Two recent volumes [1] by Dr. Albert Shaw are, then, of especial interest to school men since, by giving many concrete illustrations of methods whereby city life has been rendered more wholesome and attractive, they furnish us higher ideals, toward which we may confidently strive. True, the citizenship which Dr. Shaw describes is municipal citizenship, but, as these volumes make clear to us, the time is at hand wherein the great majority of men in the civilized world will be living in cities. A hundred years ago, Burns, expressing in "The Cotter's Saturday Night" the Scottish ideal of rural virtue and happiness, cried:

> " From scenes like these old Scotia's grandeur springs,
>
> . . . . . .
>
> Long may thy hardy sons of rustic toil
> Be blessed with health, and peace, and sweet content ! "

To-day, however, less than one-fourth of the total population of Scotland are a-chasing the deer in the Highlands, "the birthplace of valor, the country of worth," or following in the footsteps of the peasant-poet along the banks and braes o' bonnie Doon. The city of Glasgow alone will include, at the next census, a greater population than the total rural population of the Highlands and Lowlands combined. Already seventy-two per cent. of the inhabitants of England and Wales are dwellers in towns. The same movement away from the country toward the city is apparent in every nation of Europe, and in the United States as well. Indeed, the rural population of the older farming districts of agricultural States as far west as

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[1] *Municipal government in Great Britain*, and *Municipal government in continental Europe*, by Albert Shaw, The Century Company, New York, 1895.

Minnesota and Iowa is, not merely relatively, but absolutely, declining. Even here the sons and daughters of the farmers are migrating toward the towns. Professor Willcox of Cornell University has recently written, "While the dominant form of migration prior to 1870 was that from east to west, the dominant form since that time has been from the country to the city."[2]

This recent change in our condition from that of a predominantly agricultural and rural life to city life is the explanation of the timeliness and value of these volumes on municipal government. Good citizenship in the past has meant largely the fulfillment of *rural* obligations and duties. We now need, however, to learn a new set of conceptions as to the nature and scope of the civic virtues; we need "apperceiving centers" for new civic ideals, the old rural conceptions having been, by changed conditions of life, rendered obsolete, or at least inadequate. The great need of the hour is intelligence as to the proper functions of the city and the possibilities of life therein, and the means whereby these may be realized. A good man is not of necessity a good citizen. Personal integrity is as laudable a personal virtue as ever, but the possession of a pure and spotless character does not, in itself, solve for any man the problem as to the best method of supplying pure water to a city with a million inhabitants, or the best method for the disposal of garbage and sewage. For want of intelligence on these matters on the part of citizens, who are personally perhaps noble-minded philanthropists, many thousands of children die in every large city every year. By an improved system of drainage, constructed within the past quarter-century, London now saves fifty thousand lives annually. In most of the large cities of Europe the death rate within the same period has been reduced one-third, in some cases one-half. In the Middle Ages men piously accepted the Black Death as an inscrutable dispensation of God. But the modern art of city sanitation has enabled man to defy the ravages of the formerly frightful cholera. In modern times men, believing the distressing evils of city life to be irremediable, stand appalled and practically inactive before that fearful moral Black Death of the nineteenth century, the slums of our great cities. Dr. Shaw contends, however, that it is as easy to abolish a slum as to drain a swamp, that its evil virus may be easily destroyed and its moral miasma dissipated. Men are migrating from the country into the city, but it does not therefore follow that the race must decay in city tenements. Indeed, he maintains that city life may become more wholesome, morally as well as physically, than rural life. The death rate of the city of Amsterdam is already less than that of the country of Holland. And the moral and educational and physical environment of the city may be made such as to conduce to a higher and better life, and to preserve the virtue and intelligence, the industrial capacity, and the physical stamina of the race.

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[2] *Political Science Quarterly*, December, 1895.

The message of these volumes is, then, a message of hope, a hope not based, however, upon an optimistic ignoring of the vicious conditions that do now exist, and have existed since the great cities sprang up with the development of those new industrial conditions which have revolutionized the industrial production of the world. City life, we are told, has been, "on the whole, vicious," and there is a striking presentation of the reasons, perfectly preventable reasons, why it has been vicious. But life is to be made healthier and happier, physically and morally, in the city than in the country by the working out of a series of problems "having their economic and financial, their political and administrative, their sociological and ethical, and their technical and engineering aspects." In short, there is now developing a new science and a new art, the science and the art of city government. Dr. Shaw brings before us in these two volumes a mass of facts and figures showing the progress made in this new art by the nations of Europe, where, on account of the density of the population, men were compelled earlier to attempt a solution of imperative problems which could no longer be postponed.

Doubtless one of the strongest impressions made by these volumes upon the reader who has not traveled about in

Europe, or who, when traveling about, was engrossed with the palaces and art galleries, is one of surprise at the manifestations of life in the cities of the so-called Old World. We read of fresh life everywhere, of activity, growth, great municipal enterprises boldly inaugurated and successfully achieved. Many are accustomed to think of these Old World cities as wanting in enterprise, or even as being in a state of stagnation. But judged even by the census returns alone, most of the cities of Germany, for example, have more than kept pace with American cities which were of equal size a quarter of a century ago. Berlin has grown faster than New York, Hamburg than Boston, Leipsic than San Francisco, Cologne than Cleveland, Dresden than New Orleans. And although Minneapolis, St. Paul, Kansas City, and Omaha made phenomenal gains from 1880 to 1885, their growth from 1885 to 1890 was quite distanced within that period by the growth of several German cities of equal size. Even "quaint old Nuremberg," with its perfectly-preserved Middle Age architecture, and its fine mediæval flavor generally, has been growing at a rate of which any of our enterprising young cities might well be proud. This recent rapidity of growth is characteristic, though not always to the same degree, of the cities of all European countries. "Nearly every one of the chief cities of Italy," we are told, "has, within a generation, experienced what Western American towns term a 'boom.'" Turin, Milan, Florence, Rome, are growing at surprising rates. Naples is undergoing a transformation. Her "picturesque" but unsanitary ancient quarters, dating back to Greco-Roman times, are in process of complete demolition and reconstruction. Rome will soon rank as one of the most progressive of modern cities. The new Via Dante in Milan, with its main sewers, and in addition its subways on either side, six feet by four, for electric wires, gas-pipes, water-mains, etc., considered as a street, is one of the finest in the world. Even Spain is awakening, and Jerusalem and Damascus have cast off their century-long slumbers and are taking on the municipal appointments of modern towns.

If then, as Dr. Shaw ventures to suggest, "American cities are meagerly provided with the best modern facilities, and make but a sorry show in comparison with European cities," the explanation can hardly be our rapid growth. German cities have grown even more rapidly, and in addition are staggering under the burden of a huge military establishment, a burden, indeed, which saps a large part of the resources of nearly every European country. And yet, notwithstanding this constant drain for the support of military armaments, the costliness and magnificence of the municipal appointments and undertakings of many European cities are the admiration and the despair of the Tammany-ruled American expert observer.

Another impression produced upon the reader of these volumes will doubtless be one of surprise, not merely at the magnitude of these municipal undertakings, but at their variety. Nearly every form of human activity seems to be carried on by the municipal authorities in one city or another between John O'Groat's House and Constantinople. Theories as to what constitutes proper municipal activity, or proper municipal inactivity rather, do not seem to have paralyzed the initiative of the Old World municipalities. The city of Glasgow owns and operates its own street car service, its own slaughter-houses, its own water-works and gas-works. It sells gas cooking-stoves and lets them out on hire. It has built model tenement houses and rents them at paying rates. It carries on municipal lodging houses, family homes, and a house for women. It maintains public wash-houses, where for a penny an hour a woman may have use of all conveniences for laundry work. The city even takes in washing, "drawing its patronage from all classes of society," this enterprise being carried on to pay off the first cost of the public wash-houses and the public swimming-baths, which at the low rates charged pay running expenses only. As a matter of course, the municipality has expended the greater part of its energy upon far more important enterprises than its public wash-houses and laundry. These are of interest as showing the scope of municipal activities. The municipality in reality created the city in the first instance by dredging the little river Clyde into an ocean highway, and it has not hesitated to assume any function which promised well for the prosperity and attractiveness of the city thus created.

We read of municipal activities of wide scope everywhere. In Germany there are municipal savings-banks and pawnshops; in France, school savings-banks, which are branches of the municipal savings-bank; technical schools and trade schools are maintained everywhere; Paris sets aside a sum annually for the support of art; it also furnishes warm lunches to school children at the rate of two cents to those who can afford to pay, gratuitously to those who cannot; it grants a handsome sum of money toward the cost of school excursions. Barcelona, Spain, has created its own harbor; Hamburg's new docks, the finest in the world, have been recently completed at a cost of forty million dollars; municipal acquisition of the London docks is in the programme of the progressives, and also a gymnasium and swimming-baths in connection with every school, and free meals in the schools in the poorer districts, and pianos in the schoolrooms everywhere. Truly, there would seem to be justification for Dr. Shaw's conclusion: "In the theory and art of modern city-making, collectivism has a large and growing place. The municipal corporations, until recently rather passive as political and social organisms, are now becoming highly conscious of their organic entity, and highly active in extending old functions and assuming new ones." The following programme, surely no trivial one, is said to be the aim of the German city: "The German city holds itself responsible for the education of all; for the provision of amusement and the means of recreation; for the adaptation of the training of the young to the necessities of gaining a livelihood; for the health of families; for the moral interests of all; for the civilizing of the people; for the promotion of individual thrift; for protection from various misfortunes; for the development of advantages and opportunities in order to promote the industrial and commercial well-being, and incidentally for the supply of common services and the introduction of conveniences."

Considering the importance of the functions assumed by the European municipality, and the wide range of these activities, a vital question that will doubtless arise in the mind of the reader is in regard to the honesty and efficiency of the municipal administrations. Concerning this matter we are set at ease. We find the administration of municipal affairs to be in general conducted on business principles, rather than on political principles. So far as possible every municipal enterprise is made to pay for itself. That is to say, it pays running expenses, interest on the "plant," and a contribution to the sinking-fund, which will in a generation or so pay off the bonds given for the first cost, making the "plant" at the end of the period the free property of the city. Thus though the debt of many cities seems at the present time to be large, yet the greater portion of these debts was incurred in establishing such municipal enterprises as gas, water, tramways, markets, etc., which are self-supporting and do not add one iota to the tax-rate, and which, indeed, after the first cost has been met, will bring in a handsome income into the city treasury to be expended upon those municipal undertakings, such as public education, trade schools, parks, etc., which cannot ordinarily, with due regard to the highest welfare of the community, be made self-sustaining. Indeed, it is said of the city of Birmingham that the community is richer by two or three dollars for every dollar of the forty or fifty millions that the corporation has dared to borrow and invest.

This business administration of municipal affairs seems to yield excellent results. We are told that the burden of taxes in English and in American towns is about the same, but "that the citizens of English towns obtain far more than Americans for the money they pay to the local tax-gatherers, is a proposition that is too obvious to admit of any discussion." For example, Glasgow's streets (181 miles) are swept every night, and sprinkled in summer when necessary. The net cost is thirty-five cents per capita per annum. We are also told that

British politicians do not, indeed cannot, exploit the slum vote, and that the whole body of men in Glasgow who are ignorant, vicious, and irresponsible, is practically outside the pale of politics. The total cost of the maintenance of the streets of Paris for the year 1894, including *paving*, sweeping every morning, and sprinkling, was less than fifty cents per capita. The author refrains from stating the cost of the street maintenance of German cities, because it is so small that he is afraid he would not be believed by American municipal authorities. And yet he has the hardihood to say, "The maintenance of the streets in general is so much better than anything in America, that comparisons are humiliating. There is no reason, in the nature of things, why the streets of Hanover, which are beautifully paved and kept, should be better than those of Jersey City or Newark, which cities are as large as Hanover, and as rich, though their streets are probably the meanest and forlornest in the whole civilized world." As an illustration of "the superiority of sound business methods in Germany over wasteful political methods in America," we have the significant assertion that in the period from 1870 to 1890, every dollar spent upon paving the streets of Berlin accomplished more than ten dollars spent upon the streets of New York. Perhaps the most novel illustration of the efficiency of business methods is Berlin's success with her drainage system, which is at present, we are told, the most perfect in the world. And yet there is every expectation that the produce of the sewage farms in connection with the drainage system will pay back the great cost of the "plant" (thirty million dollars), with interest and expenses, and also yield a surplus to be applied to other municipal purposes. We read also of "sound administrative methods" and "freedom from even the suspicion of jobbery" in connection with the great improvements of the recently awakened Italian cities.

The explanation of the efficiency of European municipal government is already given by implication. If it be true that the first condition for a changed life is a deep conviction of sin, it would seem that a perusal of these volumes would promote in Americans that humility which is the beginning of wisdom. We are told, that which we ourselves do know, viz., that "the term Municipal Government, in the United States, is suggestive of attempts to emancipate our great towns from the control of corrupt and inefficient men, to the end that the revenues may be honestly collected and expended and public work properly performed, and that the police power may be purified from its taint of alliance with injustice and crime." This is municipal misgovernment as we know it. And yet the government of our great cities need not of necessity be a stench in the nostrils of Christendom, for "in Europe the honesty and efficiency of municipal government are not seriously in question anywhere." It is reassuring to read of the high character of English and German councilmen, that there membership in the city council is a title of dignity which merchants, professional men, and scholars are usually eager to hold. The great historian, Mommsen, is a member of the city council of Berlin. The years when Joseph Chamberlain was mayor of Birmingham and a member of its city council, before Parliament, the Cabinet, and national affairs absorbed his activity, are still characterized in Birmingham as "the Chamberlain era." Furthermore, the permanence of the tenure of office of the members of the city council makes the municipal government practically a government by experts, and the city is thus exempt from the foolish waste inevitable from the mistakes of new men and changes of plans and policy. These expert councilmen have also the benefit of expert assistance in every department of municipal activity. Indeed, the late Dr. Forckenbeck, mayor of Berlin, was, so to speak, a professional expert mayor, who made a reputation as mayor of Breslau, and was therefore invited to become mayor of Berlin. Here the mayor's first appointment is for a term of twelve years, and his tenure of office is practically for life, provided his administration be successful. The mayor of Berlin is not, one may readily believe, a mere figure head whose duty is to preside at banquets and on state occasions. Doubtless the fact that in Berlin the mayor's professional reputation is at stake, to some extent explains the difference already referred to between the cost and the quality of street pavements in Berlin and in New York.

Americans should, however, clearly recognize what is involved in this efficient expert administration of municipal affairs. The American tradition of rotation in office, which grew up while rural conditions still prevailed, when public matters were comparatively simple and easily learned by any citizen of fair ability, is not conducive to the highest efficiency in the management of so complex a body as a highly organized municipality. The inevitable consequence of this rotation in office is to make impossible the development of a non-political, permanent, skilled, efficient body of city officials. It thus detains a city from passing on out of essentially village conditions. A million inhabitants living in contiguity do not necessarily make a city. Their overgrown village may make merely an aggregation of cheap houses and dirty streets, which aggregation is, speaking biologically, still in the protoplastic state, having no structure, no organs, no head.

There exist, however, municipalities whose organism is not of this low order, wherein, through the service of honest, efficient, expert officials in association with the most distinguished and respected citizens, life is made more rich and full to the humblest citizen. For example, the cities of Germany and of France maintain municipal savings-banks. The number of bank accounts in France averages one for every family, including the rural population. In the city of Aachen, Germany, apparently almost every man, woman, and child holds a bank book. If thrift be a virtue, then it would appear desirable for the municipality to maintain a savings-bank on the broad ground of promoting the general welfare. All men and women engaged in reform movements know that saloons and slums are both effects and both causes. Slums breed saloons and saloons breed slums. Everywhere in Europe the municipalities are now engaged in abolishing the slums, not by means of a crusade, but by the permanently effective action of honest, intelligent, public-spirited city councils. Slum property is to the landlord profitable property. The city council requires the private owner to pull down his wretched, unsanitary, overcrowded tenements, which are a menace to public health and morals, and to rebuild, if he wishes to rebuild, in accordance with approved plans for sanitary construction; or else, as in the case of Naples and Glasgow, the council takes possession of whole districts on the ground of public safety, and reconstructs the entire region. Thus the death rate of the city is markedly reduced, and its attractiveness in other respects greatly increased. For scores of other illustrations of beneficent municipal activities one need but turn over the pages of these volumes.

Surely one may indulge the hope that America, exempt from the burden of huge military armaments, may, ere the twentieth century has far advanced, contain many cities which shall have reached the high ideal toward which Paris has already pointed the way. Dr. Shaw affirms the reasonableness of such hopes and such ideals: "The experience of Paris, candidly studied, ought to convince the most skeptical that there is no modern community of civilized men which cannot afford to provide, for its areas of dense population, the most perfect public appointments that technical and scientific knowledge have discovered and prescribed. Well made and clean streets, good water, proper drainage, convenient transit facilities, complete schools, thorough sanitary organization,—these at least should be considered the irreducible minimum. No city should think itself rich enough to prosper without them, and no city is so poor that it cannot afford them if it has any reason whatever for continued existence. But further than this indispensable minimum, any city may hopefully bend its energies toward the acquisition of the finest flowers and fruits of culture and art. Paris has exemplified these propositions with an unfaltering faith in science, in art, and in civilization that deserves our homage."

These volumes will reveal to many a reader a higher ideal of the possibilities of life in communities whose affairs are efficiently and honestly administered. And hence their great value and timeliness now, when the desire for a better administration of municipal affairs is so universal and widespread. They are not merely a technical account of the organization of municipal administration, but, by describing the ends that city governments are organized to accomplish, and by showing how these ends are actually attained, they give clearness and definiteness to municipal ideals, which were before, perhaps, a vague aspiration, a nameless longing for something better than we had known.

College classes beginning the study of American municipal affairs could find no better introduction to the subject than these volumes, which give a point of view and a standard. Having mastered the English municipal system,—which is simple in its framework, while its methods and results are intelligent and furnish good practical working ideals,—the student may then proceed to study the very irregular organization of American cities with some kind of chart to guide him. The best available introduction to the study of municipal government in general, for either the college student or the mature citizen of riper experience, is the *Municipal government in Great Britain.*

These volumes are destined to exert upon American thought an extensive and highly instructive educational influence.

RICHARD JONES

SWARTHMORE COLLEGE

IV

THE TRAINING OF TEACHERS FOR SECONDARY SCHOOLS

The Report of the Committee of Ten aimed at the improvement of secondary schools; but its influence could not be confined to that period of instruction, and it was found that the grammar and primary grades received almost as many suggestions as to modification of their work as the secondary schools themselves. This report, while by no means ignoring the need of properly trained teachers, offered no plan for securing this training, and made no especial appeal for advance in this direction.

The Report of the Committee of Fifteen had to do principally with the work of the lower grades, and was made by men for the most part who have had their thought centered upon this period in education. It remained for this report, and these men, to emphasize the importance of training teachers for secondary schools, and to offer a plan for its proper accomplishment. There was reason for this order of progression from the lower schools to the higher. And this reason lies in the historical development in education; for while the Jesuits at a very early period saw the necessity for the training of teachers, and incorporated it into their system, and the Pietists with their wider curriculum sought to satisfy the same need, yet it is evident that the real impulse to the training of teachers came, not from the universities, nor from the secondary schools, but from men who attacked the problem of education from another side—from Pestalozzi, and Froebel, and those men who, developing their thoughts, have revolutionized the work of the primary schools. This solution for an improvement in the schools has worked its way gradually upward, till we see it thoroughly established in Germany in the Gymnasiums and

Real-schools, and the day is not far distant when it will lay its hand upon the sanctuary of the university.

There are other reasons in the very nature of the problem why it should have presented itself for solution more forcibly in the work of the earlier years of the child than in that of the later years. The child is mentally farther separated from his teacher than the youth. He is almost another kind of being. The method of mere "telling," which may go on with apparent success in the more advanced work, plainly fails here. We must either wait for the age to come when the child can be educated by "telling," or devise a new method. To do this we must study the child,—what he knows, what he does, what he can know and can do; the how and the why of it. Thus the problem presented itself more clearly at this period, and its conditions at first seemed less complex than the problem of method in the work of secondary schools. But the study of psychology in the child has made it evident that the problem, which at first seemed comparatively simple, was exceedingly complex, not less so, indeed, than the problem presented in the later life of the child, and that properly there is no line of demarkation, but the problem is continuous. The demand for a quick method, especially in learning foreign languages, which manifested itself in the charlatan proclamations of a Ratke or a Basedow, has given place to a calm consideration of the problem of didactics on its theoretical as well as on its experimental side. The conviction that the way in which a thing is learned is of full as much importance as what is learned, has gained more and more a deep hold upon the minds of those who think upon the problem of education.

All these facts, together with the success of the training of teachers thus far achieved in the lower grades, have made the question of the training for the secondary schools only one of time and opportunity. The question of *how* has been really more pressing for an answer than that of *why*.

It was inevitable that the methods employed in this advance in the work should be more or less of an application to the new circumstances of the wisdom gained by experience in the earlier work. Such was the case with the suggestions offered in the Report of the Commitee of Fifteen on the Training of Teachers. Under the direction and advice of Superintendent Horace S. Tarbell, the chairman of that sub-committee, the work of training teachers for secondary schools has been undertaken in Providence, following closely the lines laid down in the report of the committee. Providence is an especially fortunate field for the initial work. It is the site of Brown University, which possesses a growing graduate department, and President Andrews has given his hearty support to the undertaking. It possesses a high-school system which ranks among the first in the country. Its high-school pupils now number 1374, and its committee on high schools is progressive and devoted to the interests of the school. The work of training is placed under the supervision of the professor of pedagogy at the university as the unifying head. This work extends over a period of two years, or rather is intended to cover that period. As this is the first year of the undertaking, the attempt is being made to cover the two years' work in one.

The first year is a course in pedagogy open as an elective to the seniors of the university or to graduate students. It deals with the history of educational theories and practice, with the theory of pedagogy, with the practical problems of education, so far as they are applications of the theory. It seeks to broaden the view of the future teacher by making him acquainted with the whole field of education from the kindergarten to the university, and provides for observation of typical schools and methods. For the success of the plan it is necessary that the best scholars and able men of the senior class be attracted to this elective course. Such has been the good fortune at Brown.

At the end of the year the school committee of the city appoint, from those who have taken this course, a certain number who shall fill positions of student-teachers in the high schools. There are at present in the high schools eight student-teachers thus employed. The aim is that as far as possible the work of the student-teacher shall be under the same conditions as that of a regular teacher. To this end he is given control and management of a class, not for a few days, but for at least a half year. The head teacher of the department to which he is assigned becomes his critic-teacher, and, where possible, teaches another division going through the same work as the division assigned to the student-teacher. If the student is assigned two divisions in two different subjects, and these are changed, when practicable, at the end of the half year, it will be seen that the student will have had practical work under careful advice in four different branches; or the work may be arranged to give practical work throughout the year in a single branch—intensively rather than extensively. The student also has assigned to him practical work in discipline, and in that clerical work, and work of details, necessary to the conduct of a school. In all this he does his share under the guidance and direction of experienced teachers. The student-teacher thus does the work of a regular teacher in all respects except that he is occupied for only somewhat more than half the regular time.

For the service thus rendered by the student-teacher, the city pays half the salary of a full-time teacher. The working of the details of the system are clearly shown by the letter of instructions drawn up for the use of the critic-teachers:

A PLAN FOR WORK OF STUDENT-TEACHERS

1. Each student-teacher to have the conduct of classes in at least two branches of study; in each branch to be assigned to a critic-teacher for advice and criticism.

2. At least once a week the student-teacher to visit a class in each of the two branches so assigned, preferably that of the critic-teacher—the teacher visited, previous to the lesson, to explain the object of the lesson, points to be brought out, difficulties to be overcome, on the part of the subject and on the part of the class. The critic-teacher to make assignments for such visiting in consultation with the principals at the beginning of each week.

The critic-teacher in each branch to arrange that in the course of the year the student-teacher shall have an opportunity to master the organization and method in that branch throughout the school.

3. Once a week the student-teacher to present to the critic-teacher of the branch a written plan for a lesson to be given on a day fixed by the critic-teacher, and to be conducted on that day in the presence of the critic-teacher; such written plan to be kept on file.

4. Once a week student-teachers to attend a *critique*, in one of the two branches assigned, and in the presence of all student-teachers in that branch, the critic-teacher, and the instructor in pedagogy, to read a written account and criticism of the last lesson attended by the critic-teacher, or to present such written work as the critic-teacher in that branch may appoint. This criticism to be discussed by (*a*) the other student-teachers; (*b*) the critic-teacher; (*c*) the instructor in pedagogy.

5. Once a month all student-teachers to meet the principals and the instructor in pedagogy; those student-teachers called upon to present reports on disciplinary work with criticisms; these reports to be followed by criticisms as in 4.

6. The principals to arrange for the student-teachers an opportunity to obtain an acquaintance with the organization and methods in all branches of the school.

7. Each critic-teacher to make the work with the student-teacher assigned to him as systematic as possible, and to this end a half hour conference once a week is suggested.

The critiques mentioned are for groups of branches rather than single branches, thus: languages, English, science, mathematics, and history. The work of a critique may not always be the report of a lesson. It may deal with the subject of method in a wider sense, the method pertaining to a course instead of a single lesson, to questions of value, or other subjects as occasion may suggest. The critiques prove to be the center of the system around which the other work revolves, and are of value alike to student and critic.

It is not the intention, however, to omit work in theory during this period of practical teaching. This work is to be carried on also during the second year, and the student-teachers are to meet the professor in pedagogy once a week in a seminary, where the theoretic side is to be studied and advanced work undertaken. It has been found that a living worth is infused into this work through the practical and earnest purpose of those who engage in it. It is believed that this combination of theory and practice is the only true solution of the problem of training teachers; and that the practice must be real teaching, and not play teaching.

In order that the undertaking shall be a success, it is evident that it must show itself profitable in at least three directions: on the side of the university, on the side of the high schools and the school committee of the city, and on the side of the students being trained for teachers. It is believed that the plan is of such a character that all these three ends are secured.

Nearly thirty per cent. of the graduates of Brown University engage in teaching for longer or shorter periods, and many of them follow teaching as a profession. Brown may well be proud of her history when she counts the number of notable names that rank high among the eminent teachers of to-day. None of the smaller colleges can show a better record. She has a record to maintain also as being the first college in the country to establish a professorship of didactics. With this history and these surroundings the college cannot hesitate to foster the undertaking, and not simply from a spirit of philanthropy, but even from a spirit of tangible profit. The idea of continuity in education, which has come to us through Froebel, is making itself felt throughout the whole field of education, and we hear not only of the necessity of transition classes to cover the break between kindergarten and primary schools, but that the break must be closed up between the grammar school and the high school, and between the high school and the college. Of all the breaks in the educational system, that is the worst which comes at the end. Anything which shall introduce the college graduate into practical life, and bridge the chasm which separates school from life, is of utmost importance to the system of education. It is just this which the system of training before us claims to do. It is a transition class for the college course, and as such, if successfully conducted, a most valuable adjunct to the work of the university.

The first objection raised against the plan—for there are always objectors for every new undertaking—was from the side of the high school. "This plan," it was said, "may be very good for the student-teacher, but it is at the expense of the scholar." Now this has not proved to be the case. Indeed, in the initial stages of the work it would be very hard to be guilty in this regard. The students who were taken for training would have been appointed for full time under the old system, and as only college graduates are admitted as student-teachers, it is evident that the standard of requirement has in no degree been lowered.

Again it was said: "These student-teachers will devote their energy to their work as graduate students at the university, to the detriment of their work as teachers." Neither has this proved to be the case. The student-teachers have not shown the slightest inclination to look upon their teaching as anything but of the first importance. Their teaching is characterized by the utmost interest and patient work. The teaching comes first, all else is secondary. This success is due partly to the fact that they feel that they are on probation, and that excellent work may secure a full-time appointment for next year, if not in this school, in one equally good, and partly to the fact that the freshness and vigor which otherwise would be distributed over the full time of teaching is now concentrated on half that time. Their work, too, receives much more careful oversight than has been given heretofore to newly appointed teachers, and this oversight is given with greater freedom and accepted with greater readiness and satisfaction than heretofore.

But it is not to the teaching done by the student-teacher that the school looks for its chief profit. In every school there is always more or less danger of stagnation and mechanical work. The older teachers fall into ruts, and the younger ones soon come to imitate them. The problem always is to inspire the progressive teacher and drive the careless and unconcerned. Now it is just this service which the plan of training before us aims to do. The progressive teacher is inspired by being looked to as a leader by the student-teachers assigned to him. The student-teachers bring from their work in pedagogy new thoughts, which their fellows must master or fall in the estimation of the student-teachers. The careless teacher, if there be such, feels that eyes are on his work and ears are listening to his instruction, in no unfriendly spirit, but in a spirit of criticism. The presence in a school of eight or ten bright young men and women, who are studying earnestly the problem of education in the light of its latest development, cannot fail to be a leaven which shall quietly and surely leaven the whole lump.

From these student-teachers the recruits to fill the vacancies occurring in the teaching force of the school are to be taken. Such new appointments may be the cream of those trained in the school, thoroughly conversant with the work of the school, and already proven to be successful teachers. Above all things, the hope of a school is in its teachers.

Is the plan such as to be profitable to the student-teacher? Setting aside those elements which are of the greatest weight, the proper knowledge of one's profession, and all that that involves, we consider the question purely from a utilitarian point of view. The student finds offered him upon graduation what is practically a fellowship in pedagogy of four hundred dollars. If he is bright and a willing worker he may take his A. M. degree at the university, with pedagogy for his major subject, in one year. This privilege of continued work at the university is one always highly prized by that very class of men who are most likely to choose the profession of teaching. Will his preparation enable him to get a better position as a teacher, or to do better work when he has obtained a position? The growing demand for trained teachers and the statistics gathered from the experience of teachers of the lower grades, where training has had a time to prove itself, answer this question decidedly in the affirmative. The remarkable advance in thought along all the lines of work in the secondary schools and colleges, the establishment of chairs of pedagogy in so many colleges, the advance of schools of training and their affiliation with colleges, the repeated proposition, and not unfulfilled even now, that teaching shall be recognized as a profession by the establishment of professional schools on an equal footing with those of theology, law, and medicine: all this points to a demand for training on the part of candidates for work in secondary schools, and the thorough belief that this will produce better teachers than the old way of ignoring every other qualification except scholarship.

That the training of secondary teachers is a desideratum all are agreed; that its present beginnings are only the foreshadowing of a general movement is patent to all who read the signs of the times with any care. Whether the Providence experiment is destined to solve this problem in the most practical and successful way, time alone can tell. But this is sure: whatever the method of training shall be, practice in actual teaching must form a large and essential part of the course, and this the Providence experiment fully recognizes.

WALTER BALLOU JACOBS

BROWN UNIVERSITY

V

THE DOCTRINE OF INTEREST

Interest is neither a modern nor a distinctively Herbartian idea. Moses and Homer felt and expressed interest, and they knew well how to excite it. It is a common everyday conception, and its value as a condition for successful study is commonly recognized. Everyone knows that what is interesting is influential, and everyone thinks that instruction should be interesting

But it is surprising how insignificant a place the subject holds in the literature of psychology and pedagogy. The term does not occur in the index or in the table of contents of very many standard books on philosophy or psychology, even recent ones, except those belonging to the Herbartian school. The word is not very easily found in the text of such authors as Sully, Ladd, Baldwin, and Dewey, and the idea appears only in subordinate relations. In the great work of Sir William Hamilton the nearest to a discussion of interest that we find is a passage on "The love of action signalized as a fact in human nature by all observers." Turning to books on education especially, we expect to find the topic treated at length. But where do we find any extended discussion of it? Laurie, Payne, Fitch, and Compayré make only slight, though clear, reference to it, and do not attempt to analyze or elucidate it. Even Bain and Herbert Spencer, whose undercurrent of thought suggests it all the time, do not give anything like prominence to the idea. Our own well-known educational writers, until very recently, have referred to interest as something taken for granted rather than as a fundamental matter calling for distinct and earnest treatment.

What is to be inferred from this rather meager and incidental disposal of the subject in psychological and educational literature? Is it not a fact of primary consequence? Is the idea a subordinate or incidental one, rather than fundamental? Is it not a salient thing in education? Or, has it been neglected? It is certainly true that every great poet, epic or dramatic, who has charmed generation after generation, and has put his conceptions into the common thought of the race, did so through his power to awaken interest. Every prophet, every orator, every artist, and every teacher who ever spoke or sung or wrought or taught with *power* attained his mastery through the interest which he was able to develop, first in himself and then in all whom he influenced.

The educational reformers of the sixteenth century, and since, did not discuss interest; but did not Montaigne and Ascham and Comenius and Locke and Rousseau condemn the methods of their time because they failed to nourish the interest of the learner? What but appreciation of the importance of awakening interest led Comenius to make an illustrated text-book? What else produced the *Émile?* When we come to Pestalozzi at the threshold of our own century, we do not hear even from him much on the subject of interest, but he is always showing you how to be interesting and making you feel interested; he is himself aglow with interest, so that for him to talk about it would be quite superfluous.

Is interest, then, something to be assumed—to be allowed to spring up spontaneously, or not, as may happen—or ought it to be investigated and understood and then intelligently cultivated? The Herbartians have assigned to interest a prominent place in pedagogy; they have attempted to study its nature and the conditions and means of its development, and they have sought to make its cultivation a direct object of instruction and training. Surely, in doing this they have rendered education very great service.

What do we mean by interest? Is there in the idea anything more than is obvious? Is not the common meaning of the word the correct one? We sometimes lose the sense of a common word by trying to explain it. But sometimes the very familiarity of a term conceals its true and larger significance. I think it is so in this case.

First, let us glance at the etymology. *Interesse*, "to be between." Between what? Between the thing and everything else, that is, close upon it, or in the midst of the matter. If you are interested in a thing, you are "right in it." If you are not interested in a matter, you might as well have no connection with it for any good it will do you, because you are "not in it." Indeed, I think that this word brings to us, down from the old practical Roman days, the very same subtile idea that the favorite colloquialism of the day expresses. But more exactly, what do we mean when we say we are interested? We usually mean, do we not, first, that we are attracted toward something; second, that we find pleasure in attending to it; and third, that attending to it is easy? But we know that these characteristics of interest do not constitute its essential nature. Interest is something deeper. Commonly what is interesting is attractive and pleasurable, but we are not attracted toward everything that interests us. We may be intensely interested in a thing that is repulsive or even disgusting. A rattlesnake in the attitude to strike would command our interest, but would not attract us. Sometimes the thing which chains our interest is painful instead of pleasurable. And while attention to an interesting object is spontaneous, sustained pursuit of it may not be easy. Interest is not at all the sensation of gliding down hill on ice. It is rather the sensation of exertion, of rising to a higher position against gravitation. The pleasure of interest is not the sensation of moving in the direction of least resistance, but rather the zest of overcoming resistance.

The chief element in interest is spontaneous activity, a tendency of the soul of greater or less strength to go forward in the pursuit of an object. It is mental momentum. To use physical terms, a man's ability, his mental power, is the potential energy of the man. His interest in any matter that engages his attention is the kinetic energy of his mind at the time.

Is interest, as a mental state, intelligence, feeling, desire, or will? It is all of these. It is *intellectual;* the energy of the soul in apperceiving, in imagining, in thinking, is interest. But we *feel* interest in whatever we attend to with sufficient spontaneous energy. Emotion and desire enter into every intellectual state that is energetic enough to be called interest. And we *take* interest in the thing that is really interesting to us. We choose or consent to be interested, or else we never really become interested.

The objects toward which the interested soul tends or faces are various—at least they should be. There are various kinds of interest. The interest with which we examine a strange-looking package left on our table, which may be a token of affection or a dynamite cartridge, is very different from the interest with which we study an exquisite picture. The interest we take in the first check that is handed to us payable to our order after the long vacation is genuine interest, but it is not much like that we feel in the outcome of a yacht race—on which we have no money staked, of course; nor is it like the interest we feel when informed that a note which we endorsed a while ago is in the hands of an attorney for collection, and that he does not know where to find the maker.

Herbart classified the kinds of interest under two heads, as follows:[1]

I. Interest from knowledge, embracing: 1. Empirical interest, that is, pleasurable mental excitement produced by the apperception of what is novel or varied. It is curosity, wonder, inquisitiveness. 2. Investigating or speculative interest, which is directed toward causes, consequences, relations, and uses of things. It is the interest which impels the child to ask questions. This interest has developed science, philosophy, history, and much of literature. 3. Æsthetic interest, which, of course, is directed toward the beautiful.

II. Interest from relationship with: 1. Man. Sympathetic interest, that which one takes in the welfare, happiness, and things of another. 2. Society. Social interest, which is the same thing, only extended to many and to bodies of fellow-men. This interest may be patriotism or philanthropy or loyalty to any body with which one may associate himself, as his church or school or club or set. 3. God. Religious interest.

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[1] This classification is set forth very tersely in De Garmo's *Herbart and the Herbartians*, p. 60.

There are surely other kinds, some of which seem as if they were as distinct as these, and as important to take account of in education. For instance, the interest which everyone feels—and which every child manifests early—in his own efforts and performances. The *interest of achievement* seems to me to rank by the side of speculative interest, and to precede, in the process of development, sympathetic interest. Then there is the interest with which everyone regards events that affect his own well-being, success, comfort, convenience, and the like. The interest which we take in the prospective changes of the weather is not always strictly scientific. The interest of the candidate in the returns, of the culprit in the verdict, etc., are examples of a kind of interest for which I see no place in the Herbartian classification.

If now the nature of interest is correctly and clearly discerned, its value in education and in life must be evident.

Its relation to education is twofold, as a means and as an end. In the first aspect its value is generally appreciated; in the second, it is not. Every teacher and every intelligent parent knows that the pupil learns, not only more easily but more thoroughly, what is interesting to him than what is not. That interest is one of the best, if not the very best, means of securing attention and effort is a common assumption. It is, of course, better than fear, better than hope of reward, better than shame or pride or emulation, better than even the conviction of duty and the desire to become wiser or nobler or more useful; it is, at least, a more *effective* motive than these last, for if a real interest in any matter exists, the energy of the soul—intellect, emotion, desire, and will—is enlisted in its pursuit.

But suppose my pupil is not interested in what he should do or learn, what am I to do then? Interest would be the right motive, of course, and it would cause him to do his duty if it existed, but it is lacking, and I cannot seem to produce it. Must I not find a substitute? My boy ought to learn this thing. Must I not compel him? Well, certainly if he *ought*, he *must*. You are entirely sure about the *ought?* Then it is his duty and yours that the thing be done. Duty is imperative. Are we, then, done with interest, granting that we have found an effective motive in its place? May I, a teacher, say I wish my pupils were interested in their work? They would enjoy it so much better, and teaching would be so much more agreeable; but they are not, and, to tell the honest truth, I do not succeed in making them interested, so I have to make them learn some other way. Then suppose I have taken high ground and have found in a sense of duty a substitute for interest. My pupil consents that it is his duty to study, and he goes to work faithfully. He accomplishes his task and does it well. Still he is not interested and finds no delight or spontaneous going forth of his mind upon his task; but he is loyal and obedient, and my substitute for interest is effective. I might have found in emulation, or something else, as effective a motive as duty, but that would be lower and attended with moral peril. I have chosen the highest motive, and succeeded with it. Have I not done well? A good many of us are impelled to our daily tasks by a sense of duty. Is that not right? Certainly the conviction of duty is a high motive in education. Whatever happens or does not happen, we ought zealously to perform our duty. If we have not interest in learning to lead us on as fast as we ought to go, our conviction of duty should impel us forward.

Then duty as a motive for learning is more imperative than interest? Yes; imperative is just what duty is. But interest is *necessary*. The relation of interest to duty is plain. Interest is the natural and appropriate means leading to learning; and since interest is the appropriate and necessary motive for real and effective study, it becomes *duty* to *develop interest.* We cannot dismiss the matter of our pupil's interest in learning,—or our own,—even if we think we have found as effective a means of causing him to learn, because interest is not *merely* the best *motive* for learning, but it is itself among the primary ends of education. Learning itself is not more important to the man than becoming interested in what is worthy. If interest is the drift and tendency of life, what is more important than that that be set right? This is the aspect of the subject which Herbart and his followers lay emphasis upon. I quote from Ufer:

"Interest is the magic word which alone gives to instruction the power to evoke the spirit of youth, and to render it obedient to the call of the master; it is the long lever-arm of education, which, easily and joyfully moved by the teacher, can alone bring the youthful volition into the desired motion and direction.

"In the *many-sidedness* of interest the pupil is by and by to find moral anchorage and protection against that bondage which springs from the desires and passions; it shall guard him against all those errors that are the consequence of idleness; it shall arm him against the vicissitudes of fortune; it shall reconcile him with life again, even when a sad fate has robbed him of his dearest; it shall find him a new vocation, when he has been crowded out of the old one; it shall elevate him to that point of view from which all earthly possessions and all earthly endeavor appear as something incidental, by which our real self is not touched, and above which the moral character stands sustained and free."

The cultivation of interest, then, ought not to be an *incidental*, but a *principal*, object of instruction and training. Can interest be created? Or, is it only to be developed?

If we are right about the nature of it, the answer is evident. Interest arises *spontaneously* whenever the conditions for it exist. At an early hour of its conscious life every normal child begins to be interested. The development of this incipient interest depends primarily upon the child's inherited qualities and environment, and it is sure to proceed in a natural way through the first months. But it depends secondarily upon nurture, training, and instruction, as well as experience and intercourse, so its later development becomes an *uncertain* and *varying* quantity. It cannot be created nor can it be wholly destroyed; it always springs into activity and grows as the child grows, but it is liable in every life to be perverted and deadened.

The kind of interest that manifests itself earliest, I suppose, is curiosity of a feeble sort, a gentle interest in movements of objects, flitting lights and shadows, becoming gradually a more lively enjoyment of sights and sounds and touch-sensations, until it becomes unmistakable interest in things and what they are made of and what they are good for. If conditions are at all favorable, this first kind passes into investigating and speculative interest, and the inquiring child becomes by and by the student.

But the infant's interest in his own performances must arise about as early as the interest in external things. The baby's unconscious display of interest in his fists and toes, and in the noises he can make, and in his success in furnishing entertainment, has been remarked by many observers. After a little this interest manifests itself in mimic arts and industries, and in juvenile deeds of daring and emprise. It may, by skillful nurture, become a strong inclination to some useful industry or devotion to an art. The child's interest in his own achievements, which always shows itself early, is a most important factor in the whole process of his education. By and by it will enter into the youth's ambition, and that will be noble or base, wise or misguided, according to training and influence. Out of this interest will arise that which in a large degree will determine the aims and ideals of life.

The egoistic interest of the child is not long in showing itself, perhaps first in baby's listening for mamma's coming, and in the lively joy that greets her when she appears. Appreciation of the immediate needs of self and regardlessness of concern beyond self now characterize the early months. This self-interest must grow and widen until far on in the future it becomes foresight, prudence, and care for what is most precious and substantial in life.

Out of this self-interest must come, eventually, interest in the things of others. To transform this egoistic, into a lively sympathetic, interest and then into a general social interest is one of the exceedingly delicate tasks of child-training.

The development of the æsthetic and the religious interests, beginning a little later, is dependent more than the others upon nurture and training.

The development of interest then belongs to the general life process which forms the individual. It is a part of the evolution of the person, and is likely to be as imperfect as the development of the character in other respects. But the interest of the child at any period of its life is as susceptible of special cultivation as any other factor of his character. To understand how to nourish a weak, or to correct a perverted, interest is no more difficult than to remedy any other equally fundamental weakness or perversion. To find this way, in a particular case, must be the task of the one whose case it *is*, just as it is her task to find out how to develop ability to see or think or speak correctly where the power is wanting.

1. The primary condition of arousing interest is a well-nourished, vigorous brain. There is little use trying to develop a strong, healthy interest in anyone whose physical processes are feeble or deranged. The playground, the gymnasium, the fields and woods, where mirth and action abound, nourish interest, because they generate brain power.

There is a law of life which is too little regarded—the law of rhythm. In it may be found a secret of power and of the growth of interest. It requires the rightly timed alternation of rest with exertion, of physical with mental activity, of the light with the heavy, of the comic with the serious, of the calm and the placid with the wild and impetuous. We must not demand a steady, constant flow of interest. If we would call to strong, earnest action we must give place to relaxation. The teacher who requires his pupil to be at his best all the time, never gets his best out of him at any time.

If interest wanes or fails, ascertain first of all whether it may not be a symptom of brain fatigue, or of feeble circulation, or insufficient nutrition, or impure air. When you have made sure of the physical conditions then

2. Turn your attention to apperception. Give your pupils that to learn which will fit them. What they ought to learn depends upon what they are prepared to do and to feel, as well as upon the intrinsic value of the matter. Remember that boys and girls have eyes and hands as well as ears, and that words are less significant to them than things and action.

3. Interest is contagious. Cultivate in yourself sympathetic interest. Manifest your interest in your pupils freely and warmly. Be sincerely interested in their efforts. Show them how you wish them to succeed. When a pupil has struggled bravely with his little task, and has accomplished it, do not mind if an exclamation of sympathetic joy escapes you. "Well done, my boy!" uttered in a really triumphant tone has sent the blood thrilling through many a boy's veins, and made his heart throb with a bounding joy. Cultivate in yourself sympathetic interest, and you can easily nourish the investigating and the æsthetic interest of your pupils. Do you love nature or art or literature? Admit your pupils who lack interest, not too many at a time, to the enjoyment of some of your treasures. Let them see and feel your enjoyment of what is fine and wonderful and beautiful. They will surely catch the infection. You will find in this last, if I mistake not, the entrance way to success in nourishing into vigorous life that spontaneous self-activity toward good objects from which must spring all worthy achievement in life.

W. E. WILSON

STATE NORMAL SCHOOL,
PROVIDENCE, R. I.

The Herbartian doctrine of Interest has also been discussed in the EDUCATIONAL REVIEW by Dr. William T. Harris (June, 1895) and by Professor Frank M. McMurry (February, 1896).

VI

FRANCIS A. MARCH—TEACHER[1]

Who shall do for Dr. March what Dean Stanley has done for Arnold, Ernest Renan for Bishop Dupanloup, Cotton Mather for Ezekiel Cheever, what Demmock did for Francis Gardner? Surely in a brief paper no adequate estimate can be made of one who is felt to be one of the notable teachers of this country. But we may rejoice that a worthy study of Dr. March's work at Lafayette will enrich our pedagogical and biographical literature in the near future. My present privilege is merely to suggest some thoughts that spring up almost unbidden.

One of his favorite authors, John Milton, in the tract on education, says, that all true teachers are natural, practical, and noble. In theology the cry is "Back to Christ," and in education it is "Back to nature." This demand is but another form of the insistence that teachers must have natural gifts. If Carlyle be right, that the teacher is the modern priest, then he must be "called" and ordained, and the proof of his ministry is to be sought in his sympathy with nature and her processes. We have not at hand the record of Dr. March's life and work at Swanzey, Leicester, Amherst, and Fredericksburg, but we are sure the boys and girls whom he taught in these early years were profoundly impressed with his naturalness, practicableness, and nobleness. Certainly those of us who came under his influence here find it impossible to think of him without the possession of those Miltonic and altogether necessary qualities.

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[1] This is one of a series of addresses given at Lafayette College at the recent March celebration to commemorate the seventieth anniversary of his birth and the fortieth anniversary of his work at the college. At the request of the alumni Dr. Mackenzie's address was published in the college weekly, *The Lafayette*, where it was seen by the editor of the EDUCATIONAL REVIEW, who asked the privilege of laying it before a wider audience.

FRANCIS A. MARCH, LL. D., L. H. D.,

Professor of English Language and Comparative Philology in Lafayette College.

If we should go on to explain ourselves further, we would recall his great *simplicity*. I know of no writer whose style more perfectly reveals his character: simple, direct, noble—inestimable virtues in a teacher. In my day a man read a paper on some philosophical subject assigned by Dr. March. The performance was involved and prolix, so that the doctor asked the young man to state orally his ideas. Something in the old recitation room over the treasurer's office, or something in the penetrating eye of the teacher, compelled simplicity and ungarnished truth; so that the young man's oral statement won the encomium: "Oh! but why didn't you say just that in your paper." There was nothing of the *Jupiter Tonans* of Dr. Taylor in Dr. March—the "majesty throned afar" which one feels impelled to approach in a borrowed or unreal garb. He was so ingenuous, open-minded, and tolerant of early ignorance that nature's best was stirred in every pupil. What an encouragement it was to us in our first efforts at originality of any sort to be told that "there never was a pair of eyes made not worth looking through."

Any proper estimate of Dr. March's teaching will make much of his profound and wide *scholarship*. In every recitation, at every lecture, it is a first requisite that the teacher be known as thoroughly furnished. A minister may maintain himself by the purity and spirituality of his life, as well as by, or independent of, mere intellectual endowments or power to fertilize other minds. But not so the teacher—the man who is to be revered as an intellectual father. It is probably rare, if not wholly exceptional, that in a faculty as famous as Lafayette's has been, one man should be so esteemed among his distinguished colleagues as Dr. March has been. We recall with just pride such names as Junkin, McCartney, Gross, the two Greens, McCay, Coffin, the two Porters, not to speak of others. Surely among such men honors were not easy. It was a vast intellectual influence that at every recitation such a fountain of learning was accessible, no matter whether the exercises were one in politics, philosophy, philology, literature, or the Scriptures. Not that we are aware of the world's early and constant recognition as set forth in the long list of his degrees, offices, and publications, and suggested by the various titles of to-day's speeches and addresses. The best of it was, we were never surprised at any new honor that came from Europe or America, for we knew he fully deserved it.

As to the range of his scholarship for teaching purposes, the younger Lafayette men and the outside public are doubtless not fully informed. Lafayette boys of the fifties and sixties tell of his work in Latin and Greek, and so recently as the seventies he taught political economy, the Epistle to the Romans, Story *On the constitution of the United States*, Blackstone's *Commentaries*, mental philosophy, besides the wide range of studies included under the head of English. And here we may gratefully and admiringly note that he equipped himself for this monumental work and carried it on with conspicuous fidelity and regularity, notwithstanding the fact that no reputable insurance company would accept him as a "risk." Though his pen was always busy with his specialty, a wide and sound reading in many other departments was carried on. In all this he is the best kind of example and influence to our teachers, who are too prone to be narrow and barren. Every teacher trained by Dr. March must have been powerfully influenced by this characteristic of the man. No matter how long the hours, how large the schedule, we feel that breadth, depth, and growth of scholarship are possible because Dr. March has shown them to be possible. Scholarship in our colleges is to suffer an irreparable injury when the present generation of younger men are well seated in the professorial chairs and are unhampered by the counsel and example of such teachers as Woolsey, Seelye, Hopkins, Atwater, and March. The colossal blunder that threatens us is the idea that the average freshman and sophomore is forthwith to be made an "original investigator," and needs the "direction" of a specialist. We have not been quite brave enough in this country, but at Oxford and in Germany they have taken the census, and the world is told that seventy per cent. of even university students are idlers, who need stated duties and constant drill, under broadly furnished men having before them the imperative ideals of Christian citizenship, rather than the exceptional needs of the specialist. Those of us who are of the educational cult must bear in mind that we are to translate into society not college life, but college men. Something of this view of the matter must have prompted the confession of President Woolsey: "Had I my life to live over again, I would throw in my lot with one of the smaller colleges where I could have more influence in training mind and shaping character."

In these hurried considerations I have almost anticipated a consideration of Dr. March's *pedagogical methods.* I may say at the outset that no teacher as richly equipped as Dr. March is can be content to lecture—"to lubricate every morsel of truth with professorial palaver," to use one of his expressions. A very king among teachers, he never to my knowledge delivered to a class a formal lecture. He once said: "Our students are made to write their own lectures." He knew that "life comes only from life," and so he sought contact with the pupil at as many points as possible. He wanted to be free to run to his aid at every intellectual emergency.

During these forty years of service his conduct of a recitation appears to have remained quite unchanged. The best text-book available is selected, and each day a stated portion of it is assigned to be faithfully prepared by each man. At times, assuming a general familiarity with the lesson assigned, it is laid out in the classroom in longitudinal sections, as it were for an orderly treatment in solid bars. But as a rule, the *seriatim* method is followed, and Ratich's dictum is ever regarded, *Repetitio mater studiorum.* Of course neither he nor the class is confined to the text-book. His pupils are gently compelled to read widely and write fully and often. Dr. March's own commentary upon every phase of the subject is so luminous, scholarly, and original that the healthy man does not need to be told to take notes. But such notes are not in modern parlance a "syllabus" to be bought from a professional note-taker or crammed into an inert brain at the end of a semester. They are the profound readings and the fertilizing thoughts of a personal friend whose bodily presence, tones of voice, and twinkle of eye, helped to make the subject under consideration an integral part of the learner's intellectual life.

Of course I realize that the great increase of numbers at our larger colleges and universities precludes largely the recitation method of work. But this cannot justify the lecture method as it is now used in our colleges. It serves only to challenge increase of students without a corresponding increase of teachers. The greatest Teacher chose only twelve pupils. Garfield's idea of a college was not far wrong. It is better, like March and Hopkins, to lead by the hand a few men to the tree of life than, like a sign board, to point a multitude to the woods of knowledge. The fatal heresy is in forgetting that the instructor, the *man*, is always of more worth than his instruction.

It is germane to a consideration of such methods as those of Dr. March to state what must be quite familiar to many: that our colleges are apparently losing their hold upon the earnest brain-workers of the country. The United States Commissioner of Education tells us that of students of theology only 22 per cent., of students of law only 21.7 per cent., and of medicine only 10 per cent., have the bachelor's degree in arts or science. In view of such facts it is surely our business to make a collegiate career more attractive and more necessary not only to thoughtful young men, but also and in particular, to their parents. There is ground for apprehension that the lecture system, displacing as it is the recitation system of work in our colleges, is failing to achieve the results which have exalted such men and their instruction as Arnold, Hopkins, Seeley, Woolsey, Atwater, the two Hodges, and March. Who shall say how much laboratory methods, with all their delightful personal contact of teacher and pupil in science teaching, have had to do with the growing popularity of scientific courses and schools of science? "The lecturer who keeps his pupils at arm's length and sterilizes talent and industry, successfully vaccinates his pupils against any serious love of learning," imparting only a chicken-pox form of the thing. And we must bear in mind that educational methods as well as reforms work from above down, from our colleges to our schools. Often in my experience I have had to discourage the flights of a would-be lecturer in the schoolroom where the methods of Orbilius and Busby were far more needed than a "syllabus of the treatment." Every college-bred man must have felt something more than anger when the National Educational Association voted to exclude all college professors from the direction of that great organization.

Though I have not stuck very closely to Milton's qualities I must not close without speaking of the third, *nobleness.* Dr. Youngman used to say that *ϰαλὸς ϰἀγαϑός* meant Christian gentleman. But the homely English of Milton suits our sense of things a trifle better. Dr. March is noble,—one of God's and nature's noblemen,—and this lies at the bottom of all our affection and reverence for him as a teacher. A great school is only a great person, standing between the present and the past, the living and the dead; the lens through which truth pours itself into young souls; the window through which young eyes look out on human life. Such a man in school or college—and thrice blessed is the institution that has him—helps his pupils to break the shell and snap the cords and set free whatever he possesses of nobleness.

No man is great till he has suffered, and no teacher is great till he has sacrificed in some way to do his work. Dr. March's sacrifices for Lafayette extend over a long period and have been borne in the face of the most alluring opportunities elsewhere. I think this has been a potent factor of the success he has achieved. And another factor should be mentioned for the help—or shall I say the warning?—of teachers and professors. Dr. March has been an unselfish, devoted colleague in this faculty. Every administration, whatever its character, has found Dr. March co-operative and loyal. And this colleagueship has included what is probably the severest test—attendance upon morning prayers, until advancing years justified some exemption.

Following now the example of another pupil of a great master, Thomas Hughes, I prefer to leave Dr. March at our chapel door—I trust a fitting close to this imperfect sketch. This concluding picture shall be of his own drawing, because it unconsciously reveals so much of his own beautiful, noble soul, and his conception of the best college ideals. Speaking of chapel attendance, on one occasion he said: "Compulsory attendance on prayers and preaching is a special object of attack. But it is almost a misnomer to call the college discipline compulsion. It is nothing like so strong as the obligations of professional life, or the tyranny of fashion, or social habits, or home influence. A college student is about the freest man there is. It is certainly a pleasant sight to see our college, bathed and breakfasted and ready for recitations, gathering at morning prayers. Our beautiful hill, bright in the early sun; the valley lying in rosy mist with the rivers glinting through; the great mountains looking on as though they liked the looks; the white smoke curling upward from hearths of homes that may be temples; the spired fingers of the churches pointing heavenward; the college campus with its hundred paths all leading to the college chapel; the hundreds of young men rejoicing in the morning and in nature around them which is in itself a liberal education, and gathering to offer a morning tribute of thanks and praise to the Giver of all good and ask him for stout hearts and clear heads for the labors of the day and for the scholar's blessing, the pure heart that shall see God—is a sight worth seeing. It is impossible to believe that it can be a burden to any. I have seen many generations of college students grow up and pass through life, and am fully satisfied that the habit of attendance on religious exercises in colleges has been a most powerful influence for good. I believe it still, I trust it still. After all, the proper work of college is to make Christian men of sound culture. It is not so much to develop genius; genius in the teens is either omnivorous or stupid, and either way considers professors a bore. It is to prepare our youth to discharge the duties of good citizens."

JAMES C. MACKENZIE

LAWRENCEVILLE, N. J.

VII

DISCUSSIONS

THE ASSOCIATION OF COLLEGES IN IOWA

In a recent Iowa educational directory, issued from the State department of public instruction, there is, together with much other information, a list of colleges and private normal schools. In the list of colleges are included schools having collegiate, or preparatory and collegiate, courses ranging in the scope of their work from two to eight years after the grammar grade. Such listing of the colleges is in accordance with usage in this State, a survival of our primitive conditions, dating from that period in our history when there were no colleges.

To assist our public in the formation of correct educational ideals, and to promote safe educational standards by a wise delimitation of the problems of elementary, secondary, and higher education, the colleges in Iowa that stand for the traditional four years' course leading to the baccalaureate degree, with the usual secondary instruction required for entrance to freshman standing, have been co-operating for more than a decade to raise the standard of admission and to secure relative uniformity in the requirements for degrees; and more recently to define membership in the association of colleges in accordance with these ends.

To begin with, they voted some years since to discourage the granting of all honorary degrees, and they insisted upon a separation of the work of the college from that of the high school or academy, and agreed upon a schedule of requirements for admission. Next it seemed important to give some attention to the equipment of a college to test its ability to do the work implied in a four years' course leading to the first liberal degree. In a paper read by the writer before the association three years ago, four criteria of a college were urged, and these were referred by the association to the then standing committee on membership, and have since been incorporated by them in their annual reports. These were: Satisfactory and complete conditions of admission to freshman standing; a reasonably correct organization of courses leading to degrees; a sufficient force of instruction, consisting of at least eight chairs, with the recommendation of a provisional minimum of six chairs; and some equipment in the way of library and apparatus.

So far there was substantial unanimity in support of the movement here sketched. Formal opposition developed only a year ago, when a committee of seven, to whom was committed the task of naming the colleges conforming to the requirements agreed upon, reported, with one dissenting vote, a list of ten colleges as clearly entitled to such mention. The task was confessedly a difficult one, and the report was allowed to go over, with additional instructions to the committee, for final report a year later. At this year's meeting, on January 1, 1896, a report was submitted with a list of fourteen colleges, including the State College of Agriculture and Mechanic Arts, which was recommended for admission as a technological institution, without insistence upon the first of the four criteria, namely, full collegiate requirements for entrance. The adoption of the report of the committee, without important amendment, but after a long discussion, constitutes essentially a reorganization of the college section of the State Teachers' Association, and is undoubtedly a long step in the direction of a better organization of higher education in Iowa.

In the discussion during the last few years, the movement has been described as an attempt to classify the colleges; this description cannot be applied with accuracy. So far nothing has been done but fix the minimum terms upon which membership may be secured in the association of colleges. There is a wide difference in the relative strength and equipment of the colleges admitted, and no attempt whatever is made to draw any lines between these. The difference between the weakest college admitted and several not included is narrow; and the latter should stand, at least, in the position of corresponding members, to distinguish them from the much larger class—perhaps a dozen and a half—remaining outside, some of which make no pretense of conforming to the criteria above cited, while the very claim of others often is that they can furnish a liberal education in two or three years after the grammar school, instead of the seven or eight which the *régime* of the regular college prescribes.

ISAAC LOOS

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA

THE NEGLECT OF PHYSICAL TRAINING

The adoption of physical training as an essential feature of our public-school system is the new departure which now seems destined to distinguish the educational methods of the twentieth century from those of the nineteenth. The change will not come suddenly, but will be the blossoming of a flower which has already budded. The sentiment in its favor has for years been steadily developing; it has been widely adopted in Europe, and the day cannot be far distant when it will be firmly established in our American schools. It will come, therefore, not as a revolution, but as an evolution. In this matter the colleges have taken the initiative, and the schools must follow. This is the day of the athletic scholar. The time is already past when each class contained a few athletes only; for the intense interest in manly sports has naturally resulted in sending all students to the gymnasium and improving the physique of college graduates as a class.

But if physical training is good for young men in college, it is better still for children in school, and especially important for that great majority who will never go to college. It is just as important for girls as for boys, and the earlier the age at which it is begun, the better. What we need, therefore, is to get the athletic element into all grades of our public schools, where it can be given a systematic and progressive character which will insure the maximum of benefit.

The one great defect of our public-school system is the neglect of physical training. Upon the intellectual training of its children the community bestows the utmost care and lavishes money without stint. This is very wise, as far as it goes; but to call this an ideal educational system is a great mistake. If a child's body is neglected, the labor bestowed upon his mind is in great part wasted, for the mind cannot be normally and systematically developed unless the body is also trained. It is not a wise investment of the public funds to use them for developing a race of educated invalids. On the other hand, it would be unpatriotic to make athletic dunces of our children, for education is the corner stone of our free institutions. But between two classes of educated young people, one vigorous and the other feeble, there can be no question as to which can best serve the state.

The necessity for physical training at the present day arises largely from the great preponderance of city life. A hundred years ago the country schools were in the majority, the school year was shorter than now, and the children had abundant time for play or for work on the farm. But now when, in New England, agriculture has given place to manufacture and commerce, when the vast majority of the children are in the schools of cities or large towns, the amount of bodily exercise obtainable is generally inadequate, both in character and amount. Pupils must spend so many hours in study that but little time is left for out-of-door sports. The more vigorous boys, no doubt, get sufficient exercise; yet this is always an uncertain quantity, especially in winter. But the more delicate boys can get but little, and as for the girls, they have practically none. In short, the physical training of the children is left to influences wholly outside of the school system; and while, in earlier times, these influences could ordinarily be relied upon, in the present state of society they cannot be relied upon at all.

What then, it may be asked, can physical training do for the children that is worth while? The answer is that it can confer many benefits, all of which are very much worth while. They may be briefly summarized thus:

1. Physical training of school children invigorates the circulation of blood, thus repairing the waste of brain tissue and keeping the mind clear and active.

2. It aids digestion and improves nutrition, whereby the blood is enriched, the tissues firmly built up, and dyspeptic headache prevented.

3. It strengthens the muscular system, enabling the children to bear fatigue and preparing them for the laborious duties of life.

4. It gives tone to all the vital organs, such as the heart, lungs, and kidneys; thus promoting longevity, by preventing those diseases of later life arising from weakness of these organs. A great increase in the prevalence of these organic

diseases in persons past the age of forty has been noted in recent years, and one of the causes to which they can be traced is a studious and sedentary childhood.

5. It is one of the best preventives of consumption. The chest exercises increase the breathing capacity by augmenting the size and expansion of the lungs. Free circulation in the chest is also promoted, and the lungs thus acquire a tonicity which enables them to resist disease, whether threatening them in the form of chill or of bacilli. In Massachusetts, consumption causes more deaths than any other disease, and, since its victims are mostly young adults, it deprives the State of those lives which it can least afford to lose. For the prevention of this disease, two plans can be followed. One is to *avoid* infection, and the other is to *resist* it. The former of these has been put into practical operation by the State by the killing of tuberculous cows, and by instructing the people how to avoid infection in caring for the sick. But to stamp out the disease by these measures is impossible; consumption is endemic in this climate, the germs are omnipresent, and we cannot expect to escape them. If, therefore, we cannot escape, we must learn how to resist them, and the secret of success is this: the tubercle bacillus finds a congenial soil in weak, ill-nourished lungs, while in strong lungs it is apt to languish and die. The possession of a sound pair of lungs is therefore the best protective armor against consumption; and the greatest boon which we can confer upon the children is to teach them to so develop their lungs that they may successfully resist the tuberculous infection.

The state does noble work for the children in protecting them from disease in many forms. By means of pure water, good drainage, house sanitation, disinfection, and careful supervision, most of the contagious and infectious diseases are being gradually extinguished. And yet we have now seen that a formidable list of diseases remains, for which no provision is made, and that these are largely preventable by early physical training. To remedy this defect is now an evident public necessity. Our educational method must be so amended that our children's physical development shall be commensurate with their intellectual progress.

If, then, the school authorities must undertake this work, there is no way in which it can be so well and economically done as by making physical training a part of the school curriculum. This need not interfere with any of the studies; but even if it did, let us have our children strong, even if not so very learned. With all the cramming possible, they can acquire in school only the beginnings of knowledge. In the great school of life their education is continued, and for this the best preparation consists in a healthy mind in a healthy body. When prizes are offered in our schools for the strongest muscles, the straightest back, the best chest expansion, and even for the rosiest pair of cheeks, the cause of true education will be subserved.

The great athletic festivals to be held in Athens in 1896 and in Paris in 1900 will serve to attract public attention to the great progress which has been made by all civilized nations in the direction of physical training, and will cause much discussion as to the best means of applying such training so that it may effect the greatest good to the greatest number. If it should result in so molding public opinion that the coeducation of mind and body shall be substituted for our present one-sided system, it will save our race from physical degeneracy and will give to the men and women of the twentieth century such a measure of physical endurance, of longevity, and of mental symmetry as will enable them, far better than ourselves, to grapple with the complex problems of modern life.

J. F. ALLEYNE ADAMS

PITTSFIELD, MASS.

LOGICAL VERSUS EDUCATIONAL VALUE

There is an increasing tendency to accept as an educational maxim the proposition that the pedagogical value of a subject is quite independent of its logical value. It is urged that those aspects or parts of a subject should be presented, which are suited to the mental capacity of the child, without reference to their logical connection. What concerns him at present, is a knowledge of facts, such facts as will enlist his interest and attention; their continuity and logical relations he may be safely left to discover when a larger knowledge and more maturity have qualified him for the task. In other words, the pedagogical value of a subject must be determined by the status of the child rather than by any consideration of the abstract relations of the subject itself.

While we may accept the general truth as having a valid basis, and while the disregard of it has been attended with disastrous results in deadening intellectual activity and burdening the memory with useless knowledge, yet, like most similar statements, it has its limitations, and needs qualification in actual practice. For it would seem that the unqualified acceptance of this statement carries with it the assumption that, for younger minds at least, no special value attaches to the *orderly* acquisition of ideas. Such is the extreme view of those who insist upon maintaining that education should be according to nature, and that, in the end, she will remedy any temporary defect that may result from a neglect of logical relations. But educational training means not only that the right knowledge is to be presented to the mind, but so presented that it shall excite right modes of mental activity. The permanent outcome in the formation of a mental habit is of no less consequence than the content by which it is developed. To set forth a series of facts in science or history, simply because they can be made interesting, without any intimation that they are related to other and wider facts, is to encourage an attitude of mind which is not favorable to enlargement and growth.

A good illustration is at hand, in the prevalent practice of presenting historical facts apart from their geographical relations. The failure to connect in thinking two sets of facts so closely related, results in a kind of psychical blindness to such relations, when, at a later stage, the attempt is made to disclose the true significance of such a connection. It is often difficult to awaken in the minds of adults any real appreciation of so simple a fact as that the insular position of England has had anything to do with its civil and political history.

Those who adopt this educational maxim without its proper limitations, seem likely to fall into the fallacy, inherent in the old psychology, that the mind does not develop as a unit, but in departments, and therefore, all mental operations not appropriate to a particular stage of development should be carefully avoided. Many educational schemes are tinged with this heresy. Even Mr. Spencer's statements are not sufficiently guarded. Thus he states, "that alike in its order and in its methods, education must conform to the natural process of evolution—that there is a certain sequence in which the faculties spontaneously develop, and a certain kind of knowledge which each requires during its development; and that it is for us to ascertain this sequence, and to supply this knowledge." This, however, is the theoretical child of evolution, rather than the actual child as we know him on the playground and in the classroom.

All careful observers of children are agreed that the process of making inferences begins in infancy and develops, with opportunities for observation, up to the period of school life. Their eager and strange inquiries, their anxiety to learn the causes of things, their disposition to frame judgments based upon accidental resemblances, reveal the activity of a mental power which knows and can discover the logical relations of things. To build up, therefore, an educational scheme which is intended to regulate and develop the power to perceive and observe, without providing for the continued activity of this other phase of mental life, is to interrupt the symmetry of mental growth which has been more or less characteristic of its spontaneous development. This, indeed, is an education not in accordance with, but contrary to, nature.

It is sometimes urged that the pleasurable interest awakened in the acquisition of ideas is the test of their value to the child, and, therefore, if he does not spontaneously discover the logical relations of a subject it can have no interest and will be of no value to him. Measured by this test, it would be easy to decry much of the current work of perception and observation, but it is just at this point that the judicious teacher will know how to assist and supplement the activity of the child. Professor James has illustrated and emphasized the importance of preperception, as an aid to the actual perception of an object. Under suggestive guidance, the capacity for perception is augmented. The wider and truer vision of the teacher comes to aid the weaker vision of the child. It is the high function of the instructor not only to furnish such knowledge as may spontaneously awaken the interest of the pupil, but to encourage in him such an energetic exercise of his powers as will give a greater breadth and trueness to their vision. The delight attending such an exercise of faculty is an ever fresh stimulus to further effort.

F. W. OSBORN

ADELPHI ACADEMY,
BROOKLYN

THE SPIRIT AND THE LETTER: ANOTHER VIEW

The recent paper by Mr. Lawton on this theme is but the latest word in a logomachy whose echoes have been heard in the REVIEW before, notably in Professor O. F. Emerson's article on *Relation of literature to philology*, February, 1893. It would not be difficult, indeed, to point to traces of this same conflict in almost any record of human thought, for the spirit and the letter have been at war since the soul of man created literature. The constructive imagination and the scientific reason are not easily reconciled. When the silver-footed goddess is compelled to wed a prosaic mortal, Discord is certain to make her appearance, an unbidden guest at the feast. From the days when heterodox poets were to be banished from a philosophic commonwealth, to the time when John Keats drank confusion to the memory of Newton, "because he had destroyed the poetry of the rainbow," we may observe these wraths in celestial minds.

It is quite three hundred years ago that a great classical scholar[1] of the day delivered himself of an opinion, which, when divested of its sonorous Latin, has a curiously modern sound: "Others are misled by a different kind of mistake, who carefully read the wisdom of the ancients not that they may improve their spirit, but their mind; not that they may learn how to live, but how to talk; not that they may go away better men, but only more learned; who, finally, read with the eyes of mere grammarians the writings of those who discoursed on virtue."

It can hardly be doubted that every generation of classical scholars since has listened to similar strains. The critical and the constructive faculties, the literary and the scientific tendencies, have made few truces, and those have not been very carefully kept. Let us find our consolation in the thought that a conflict so persistent must arise from the nature of things and is, therefore, beneficial. It is probably the essential condition of progress, like the continual falling and recovery by which we walk, or the daily dying and renewal which constitute our life. Not the struggle then, but the unchallenged victory of either side is most to be dreaded. It is a pity that it does not seem more natural to refer to this subject in other than military metaphors. The two methods of treating literature and language should be recognized as equally necessary and important. They are the centripetal and the centrifugal forces which produce the perfect orbit. When we shall acknowledge with the seer that "spirit does not help the flesh more than flesh the spirit," it will be easier to adjust the claims of their respective advocates.

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[1] Isaac Casaubon

Mr. Lawton, however, did not depreciate the importance of a scientific study of the classics, but warns us that it is cultivated in America too much to the exclusion of the literary or humanistic method. That he calls the latter the "higher" aspect of the subject may be disregarded in the interests of peace. Professor Emerson has already pointed out that such warnings are more often heard from its advocates than from the believers in "purely linguistic" methods; but he concludes that they are not justified, at least in the present state of instruction in English language and literature. There is some reason to think that his conclusion may be extended to include the classics. It cannot, of course, be denied that the amount of work done by our classical scholars which can be regarded as literature, is very small indeed. We must all regret that the man best fitted to do such work should have yielded, as far as Mr. Lawton states, to the wiles of the spirit *der stets erklärt*. But it is also possible to see in his career an heroic attempt to create right conditions of classical study rather than a yielding to unfavorable environments. When it is considered how short a time the classics have been studied scientifically in America, and how scanty as yet are the fruits of that study, it is not altogether clear that it is time to call a halt, however much we may believe in the ultimate importance of the cause for which Mr. Lawton pleads. How long is it since cultured Americans ceased to indulge in such divagations as are recorded in a recent volume on the study of Greek myths? Assuming that they originated in the *age of Plato*, one of the best known stories was thus interpreted:

"The indomitable Will had dethroned Time, and, acting with Productive Energy, . . . had driven back the sensual passions to the bowels of the earth while it produced Perfect Wisdom, Genius, Beauty, and Love; results which were more excellent if not more powerful than their cause."[2]

We may pity the man who scorns these delights and lives laborious days in counting the prepositions in Deinarchus; but, after all, isn't it more profitable to live with him on the solid earth than to take flight for such a cuckoo-cloudland.

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[2] See a review of *Margaret and Her Friends*, in *The Nation*, December 5, 1895.

To restate afresh the relations of the masterpieces of antiquity to each generation of thoughtful men, is indeed the imperative duty of a real leader. But is it any less imperative that he should understand, to an extent which his generation would consider adequate, what those masterpieces are? And those who may not aspire to leadership, why should they not feel that they are as usefully employed in contributing to one of these great ends as to the other?

Finally, it may be worth while to speak of a misconception which some of Mr. Lawton's readers may form, but which he, doubtless, would be the first to deprecate. There exists in many quarters a vague notion that teachers of language undertake, or ought to undertake, not only to foster but even to create the ability to produce literature. The number of prominent authors who have never come under classical influences, and the paucity of good writers in the great number of college graduates, are often referred to as though they constituted a reproach to our system of linguistic education. Just what part education plays in developing literary talent, it would not be altogether easy to decide; but those in intimate contact with Latin and Greek may observe that these subjects do not abhor a mental vacuum more than Nature herself. Unless a man's demon urge him to write, as Matthew Arnold says, he is at least as likely to be discouraged as inspired by an acquaintance with the masterpieces. They cannot supply for him what the fates have denied. Those who plead for the literary treatment of the classics should be careful not to aid in laying upon us a responsibility which we cannot meet. We are sorry indeed that our pastures so seldom feed a Pegasus; but should we advertise a pair of wings to fit every Rosinante?

GEORGE M. WHICHER

PACKER INSTITUTE,
BROOKLYN, N. Y.

VIII

REVIEWS

An Introduction to the study of American literature—By BRANDER MATTHEWS, A. M., LL. B., Professor of Literature in Columbia College. New York: American Book Company, 1896. 256 p. $1.25.

The study of literature in our secondary schools is a subject that has of late attracted much attention from teachers, and is likely to attract still more. Whether such study should be confined to the reading, with suitable annotations, of a few great classics, or should include, in addition, a survey of the chief facts of literary history in a formal manual, may be cited as points in the problem on which those who have thought most deeply will probably be least dogmatic; but whatever the position we may take with regard to these moot-matters, few of us will fail to agree that a book like this of Professor Brander Matthews's ought to be used with success in every school in the country. For it is certainly nothing less than a shame, in view of the fact that so many of our youth terminate their education with the high school, that girls and boys should be allowed to enter on active life with little or no knowledge of the literature that has shaped and is shaping the life of the society of which they are to become members. The influence on American life of Franklin, Cooper, Emerson, and Longfellow has been abounding, and we should point out the fact to our children, if from motives of gratitude alone. Again, we need not be jingoes in order to appreciate the value of a genuine and sound patriotism, and from the days when a Greek boy was set to study the poems of Homer, there has been no more effective way to stimulate the patriotism of the young than to introduce them to what is best in their country's literature. As to the propriety, then, of including the subject on which Professor Matthews has written in every school course in the land, there can, I think, be no reasonable doubt.

With regard to Mr. Matthews's thorough success in treating his subject I am in as little doubt as I am with regard to the value of that subject from an educational point of view. He has laid his chief stress on the great names, and omitted every detail that would tend to obscure for the pupil the personality of the writer described. In other words, Mr. Matthews has shown himself to be an adept in child-psychology, for persons appeal more to the young than things, and books are things to the average young mind. Strings of dates, lists of books and names, long-winded paragraphs of criticism find, therefore, no place in this excellent volume. Needful apparatus is given, however, in the shape of practical bibliographies, questions for examination, chronological tables, etc., as well as in admirable illustrations, which include authentic portraits of all our chief writers, views of their birthplaces or homes, and last, but not least, facsimiles of portions of their important manuscripts. In the latter particulars the publishers have seconded the author admirably, and as they have more than done their duty with regard to strictly typographical details, we have been given a volume that ought to delight every pupil in whose hands it is placed.

Mr. Matthews has said some wise things elsewhere about dedications and prefaces, but to judge from the present volume he ought to have still wiser things to say about introductions. His brief introduction is one of the most stimulating chapters that young Americans could have set before them. It brings out in a striking way the immense spread of the English language, with the consequent increase of influence that has come to every writer who uses it, and then makes a vigorous attack (all the more vigorous because it is masked) upon the provincial idea that that only is English literature which is produced in England. This vindication of American literature to a right to stand beside British literature as a part of the priceless literary inheritance of the English-speaking nations, is something new in our text-books, and must stimulate the pride and patriotism of every student.

After this auspicious beginning and a preliminary sketch of colonial literature, we are given an excellent chapter on Franklin, in which our author has wisely omitted certain qualifications, as to Franklin's humor and integrity, that might have been necessary had he been writing for older readers. Simple and direct statements—as simple and direct as Mr. Matthews's own style—are best for young people, who will learn the art of qualification soon enough. It is true that in aiming after simplicity and directness, a writer may occasionally go astray, as

Mr. Matthews does, when, in accentuating the fact that Irving lived by his writings, he does a slight injustice to the memory of Brockden Brown. But such things are mere trifles when compared with the positive value that comes to a book from the consistent adoption of a plan of treatment so sound and sensible as that which Mr. Matthews has followed throughout his volume. I have hardly found, in a careful perusal, anything that I could fairly fault, unless it be the assignment of a separate chapter to the faded names of Drake and Halleck. Yet, from the schoolboy's point of view, "Marco Bozzaris" has still to be reckoned with, and Mr. Matthews is writing for schoolboys. With his choice of Parkman as our representative historian, I am in entire sympathy. A chapter on Bancroft was an impossibility in a book which does not make a virtue of dullness, and Motley and Prescott chose foreign themes.

To conclude, I cheerfully recommend this volume to all our secondary teachers. It is an introduction, not a formal manual of literary history, and as such cannot be out of place in any grade of school. It is written with full sympathy and knowledge of its subject, and from a national and patriotic point of view. It has nothing sectional about it, and, what is perhaps better, it has nothing dull or pedantic. It is a textbook written by a man who has a knowledge of educational needs, and yet it is also the labor of love of a man of letters, who is at the same time a genial humorist. Witness the remark that "where Emerson advises you to 'hitch your wagon to a star,' Franklin is ready with an improved axle-grease for the wheels." Indeed, if I could fairly choose one quality of this book, and only one, for commendation, I should point to its geniality—a quality that young people love, and that his friends always associate with Mr. Matthews.

W. P. TRENT

UNIVERSITY OF THE SOUTH,
SEWANEE, TENN.

A concise Anglo-Saxon dictionary for the use of students—By JOHN R. CLARK HALL, M. A., Ph. D. London: Swan Sonnenschein & Co.; New York: Macmillan & Co., 1894. p. xvi, 370. Price $4.50.

This work might be styled a sort of "dictionary of dictionaries," for its aim and scope is to gather all the material found in the glossaries and special dictionaries of Anglo-Saxon literature, so as to put the student in possession of a fully equipped apparatus for reading the texts, if not for more special research. The work achieves the end in view. The author wishes to supply in the field of Old English something equivalent to the place which Mayhew and Skeat's *Concise Dictionary* occupies in the field of Middle English. He has not only collected the matter found in the familiar glossaries and lexicons, but he has also included the words from the Wright-Wülker's *Vocabularies*, supplementing his lists by a concordance which he has made of the Alfredian manuscripts. This sweeping of the field has yielded as many, perhaps, as two thousand words not to be found in Bosworth and Toller. So much for the advantage of the book on the side of fullness.

With regard to vowel arrangement and word-order, teachers who have used some of the older glossaries to readers and handbooks, and are thus acquainted with the difficulties which a beginner finds in looking up words that contain broken or mutated vowels when arranged according to the more strictly scientific but perplexing, and less practical word-order, will heartily approve of the author's having followed the newer and more practical system of a strictly alphabetic arrangement in the case of every word. Cross-references, moreover, are abundantly given, so that time is saved for the beginner who has constantly to refer to his dictionary.

The form in which the words appear is, everywhere possible, the Early West Saxon. It is helpful to have peculiar poetic forms marked, or dialectic forms discriminated, although completeness in this regard is not claimed. In the case of once-used words, rare words, and in certain other instances, citations of passages in which they occur are usually given, but references are otherwise omitted. This limitation is proper in a work for the use of students like the present, but for scientific research one must of course still go to his Bosworth and Toller. The grammatical references to the Cook-Sievers's grammar are common enough to make the student watchful, and the introductory comparative tables of vowel-sounds, normalizations, graded and mutated forms in the strong verbal inflection, are instructive and were worth adding.

With respect to significations, the meanings are briefly and clearly given; no special attempt apparently is made to solve difficult problems or to offer new explanations of obscure or uncertain words; the dictionary is content with concisely recording the meanings given by the principal authorities. A glance at such words as *dennian*, *cohhetan*, or *scūrheard* will illustrate this point. The compiler, it may be added, gives reasons for his not indicating by separation the component elements of compound words, but not every teacher will perhaps agree with him in this matter in a work like the present. In conclusion it may be said that Mr. Clark has furnished to students and to all who care for the oldest form of our mother-tongue a practical and handy book, one to be welcomed, and which is destined, likely enough, soon to merit a second edition.

A. V. WILLIAMS JACKSON

COLUMBIA COLLEGE

The principles of argumentation—By GEORGE PIERCE BAKER, Assistant Professor of English in Harvard College. Boston: Ginn & Co., 1895. 414 p. $1.00.

The methods employed at Harvard College in the teaching of rhetoric and English composition have for ten years or more had an important influence on the development of instruction in that department throughout the country. There have been several reasons for this. First, Harvard was the first of the large colleges to organize a complete system of work in English composition; second, courses in composition have been so largely attended there as to put the methods of instruction employed to an exceedingly severe test in point of practicability; third, the Harvard system has been distinguished throughout by thoroughness and good sense: it has laid great stress on regularity and frequency in writing, on careful composition by the student and careful correction by the instructor, and on actual practice in writing rather than on the detailed study of models or text-books. By the experiments carried on at Harvard other colleges have profited in all of these respects, and have made radical changes in methods of criticism and in the amount and character of the writing required of students in prescribed and elective courses. To the important work done by Professor Baker in developing one branch of English composition at Harvard I have already called attention in the pages of the EDUCATIONAL REVIEW in connection with his *Specimen briefs* and *Specimens of argumentation*. For years he has insisted that each of the long argumentative essays which are required of Juniors should be rigorously judged, not in point of style, but as pieces of solid argument—that they be soundly conceived and logically developed. The effort demanded of a student in such work is obviously very great. Any fluent writer can, by the middle of his college course, produce a fairly polished piece of expository work with little difficulty. Facts of some sort are easy to get, and a little care will put them well together; a boy can learn the trick. But argument—logical proof—tries a man's strength and skill, tests to the full his power and his acumen. Naturally, Harvard students have grumbled and sometimes protested, but even the worst loafer has learned that he could not trifle with "forensics," and the best men (not by any means the men who had hitherto secured high rank by feats of memory or industry) have been thoroughly grounded in the principles and practice of sound argumentation.

Mr. Baker's book is an exposition of his methods and of the principles on which college work in argument can be based. It is not for babes. No teacher should think of using it in secondary schools or in elementary college classes. It is for young men who are competent to take up questions that require serious thought and investigation. For Freshmen and Sophomores debate and argumentation are more productive of harm than of good: they know too little to make up their minds on any but the simplest of the questions that men debate seriously. But to Juniors, or, better still, Seniors (it must be remembered that the Harvard Junior is twenty-one years old), such drill is indispensable. It may well be that argumentative composition is destined to replace in our colleges the traditional drill in formal logic—a drill which, as Professor Sidgwick has shown, in his *Process of argument*, does little or nothing to develop the power of thinking soundly and effectively. It would, indeed, be curious if the mediæval passion for the study of logic should be revived in our day and our country under the different guise of an enthusiasm for the study of the principles and practice of argument. The interest in debate in a great number of American colleges, however, gives ground for supposing that such a movement is possible. To take advantage of this interest, to seize the opportunity for insisting rigorously on a study so peculiarly essential to the stability of our government and to our progress in civilization is, in the writer's opinion, the duty of college authorities throughout the United States.

G. R. CARPENTER

COLUMBIA COLLEGE

The principles of rhetoric—By ADAMS SHERMAN HILL, Boylston Professor of Rhetoric and Oratory in Harvard College; new edition, revised and enlarged. New York: Harper & Brothers, 1895. 431 p. $1.25.

The original edition of Professor Hill's book had for some years the distinction of being the only American text-book of composition that proceeded clearly and simply to fulfill its title, without irrelevancies and without vagaries. This great excellence appears in the words of the preface to the new edition now before us: "while engaged in revising this book, I have seen no occasion to modify in any important respect what was said in the preface to the first edition. I still believe that the function of rhetoric is not to provide the student of composition with the materials for thought, nor yet to lead him to cultivate style for style's sake, but to stimulate and train his powers of expression—to enable him to say what he has to say in appropriate language. I still believe that rhetoric should be studied at school and in college, not as a science, but as an art with practical ends in view."

The most striking differences between the edition of 1878 and the edition of 1895 are the increase in the number of pages by 125, the separation of description from narration and of exposition from argument, and the rearrangement of Book II, Part I (the main body of rhetorical precept) under *clearness*, *force*, and *ease*.[1]

Book I (Good Use) naturally shows least change. More space is given to Americanisms and Briticisms; and the suppression of an unfortunate Canon II, on the analogy of the language in the matter of certain auxiliaries, shows the reaction of the increasing knowledge of Old English. In Book II, i (Choice of Words), the general counsel is fuller, more practical, more interesting. *Clearness* (1) is admirably re-enforced; *force* (2) still gives most space to figures; and *ease* (3) is still insufficient and rather vague. Both the latter sections suffer from an apparently studious avoidance of Professor Wendell.[2]

Book II, iii (Arrangement), adds to the categories used thus far *unity* (4), *kinds of sentences* (5), *paragraphs* (6), *whole compositions* (7). If this new division is not logical, it is at least significant. In the old edition *paragraphs* appear only in a short reference[3] under Number of Words, and a summary statement under Arrangement.[4]

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[1] An unfortunate substitution for the generally adopted *elegance* of the original edition.

[2] *English Composition*, pp. 234–307.

In Part II (Kinds of Composition) *description* is almost entirely new and entirely admirable. *Narration* stands much as before, sound, but burdened with the conventional application to history and "fiction." *Exposition* is more perfunctory, and *argument*, though recast and re-enforced, is not materially changed.

To detract from the praise of a text-book so free from error in doctrine, so apt and full in example, seems ungracious. But as a text-book it is not uniformly strong. Thus, in Part I, 140 pages on diction to 60 pages on construction can no longer be considered due proportion. Thus the section on the paragraph (nine pages), though sound and concise, is not sufficiently explicit for purposes of teaching. And, to cite perhaps the most striking instance, the chapter on argument contains no hint of the excellent system of teaching argumentation developed under Professor Hill's very eyes by Professor Baker. In a word, the book belongs to that class of rhetorics which deal in counsel rather than in method. There is a growing opinion that such books are better for private study than for classes.

In spite, then, of the important modifications and additions noted above, the spirit and essence are unchanged. One may thus the more readily pardon the omission of the acknowledgments due to Professor Hill's colleagues, past and present, and especially to Professor Wendell. Yet there is apparently no important change in this new edition which does not follow, directly or indirectly, from the work[5] of these men. That the book as a whole has not swung with the current is not rashly to be thought a vice. And whether it be a vice or a virtue, one thing is certain: the only teacher that can afford to be without this new edition is he who, by years of annotation, has perfected his old Bain.

CHARLES SEARS BALDWIN

YALE UNIVERSITY

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[3] *Ibid.*, p. 125.

[4] *Ibid.*, p. 157.

[5] The most important published works are Wendell's *English composition* (1891), Carpenter's *Exercises in rhetoric and composition* (1892), Fletcher and Carpenter's *Theme-writing* (1893).

Latin lessons for beginners—By E. W. Coy, Ph. D., Principal of Hughes High School, Cincinnati. New York: American Book Company, 1895. 330 p. $1.10.

When a veteran teacher of Latin who is also principal of one of the most important high schools of the country, and who has received some of the highest offices in the gift of the National Educational Association, offers a book of this class to the public, he is entitled to a respectful hearing. And we should expect from such a man no merely imitative work, but something radically new and original; and in this beginner's book in Latin we have something quite different from any books of its class now available for an introduction to the study of Latin.

The author's purpose is twofold: to give a thorough training in Latin forms and in common syntax, and to introduce the student as rapidly as possible to connected reading. The book is independent of all others, and the grammar, both formal and syntactical, is introduced as it is needed. The simple parts of the verb come before the more difficult ones, and the unusual forms, and irregularities generally, are postponed until late in the book. At the beginning, short sentences for translation into both English and Latin are given; these gradually become more difficult, attention being meanwhile called to the importance of the Latin order of words, until with the 19th lesson selections of continuous passages from *Viri Romæ* are introduced. These are carefully annotated, and are treated on the inductive plan so far as it is safe and wholesome. With each lesson based on *Viri Romæ* are exercises for sight translation into English and Latin. Progress is so gradual, owing to the endeavor not to anticipate difficulties needlessly, that the passive voice is not reached until lesson 31; as also the theory of the ablative absolute is delayed until p. 90, although several examples had previously occurred. The lesson vocabularies are given up with lesson 70, and with the 89th lesson Nepos is introduced in the life of Timoleon, and with the 97th follows the last struggle for Gallic freedom as described by Cæsar in book vii, chapters lxxix to lxxxix of the Gallic war. Here also are exercises for translation from English to Latin. The book closes with an appendix containing paradigms and collected rules of syntax, and a Latin-English, but no English-Latin, vocabulary.

There is evidence throughout the book of the experienced teacher, and many little observations are made which will save time in the classroom. The paradigms are accented properly, the learner is told to learn *bonus-a-um* from left to right, in the book itself are drill questions; English derivations are from the first suggested and later called for; in fact much that has heretofore been demanded of the teacher is asked by the book. If the book works well in practice, the pupil will know more Latin and like it better than he would if he followed one of the older beginning books which do not attempt to reach continuous sentences early, and he will be able to grapple with Cæsar or Nepos without trouble. Excluding the Cæsar, but including the Nepos, the book calls for ninety-six lessons, about a half-year of school work. The saving of time is thus considerable, and the Latin course is relieved just so much for practice in sight-reading and prose composition, and other desirable work which many teachers regard as extra.

There are a few slips; on p. 9, one is hardly safe in denying absolutely the qualitative differences in the length of vowels, and on p. 10, footstoól has a bad accent; on p. 21, *filia* and *dea* do not always have Latin in *-abus;* on p. 32, *vesper* is a bad example for the second declension, as it is inflected partly in the third, and but few cases are used; on p. 98, *haud procul erat quin* (from Livy, i, 5, 7) is translated with a personal instead of an impersonal subject, which is manifestly wrong in the light of Livy, v, 12, 7, *haud procul erat quin castra turbarentur* (*cf.* also *abest quin* in Cic. *Att.* 11, 15, 3); on p. 210, *binum* is not a contracted, but a parallel form to *binorum*. But these are small things. The book as a whole is accurate; the treatment is sympathetic. It would seem to accomplish more in less time than any of its competitors, and to create a liking for Latin study rather than an aversion to it.

W. A. MERRILL

UNIVERSITY OF CALIFORNIA,
BERKELEY, CAL.

The natural history of plants—Their forms, growth, reproduction, and distribution; from the German of ANTON KERNER VON MARILAUN, Professor of Botany in the University of Vienna, by F. W. OLIVER, M. A., D. Sc.; Quain Professor of Botany in University College, London, with the assistance of MARIAN BUSK, B. Sc., and MARY F. EWART, B. Sc. Two volumes in four. Large octavo. Henry Holt & Co., New York, 1895; 1760 p.; $15.

This delightful book adds another to the long list of works which make science popular without sacrificing anything in the accuracy of their facts. It will not only prove interesting to the average reader, but also stimulate to closer observation, and suggest new thoughts and explanations to anyone thoroughly familiar with the subjects treated. It is clearly and simply written and beautifully illustrated. The colored plates are brilliant, and the text is also embellished by numerous original woodcuts, to look at which alone is sufficient to impart a great deal of interesting information as well as to serve as an inducement to read the text.

To those who are not specially interested in the morphology of plants, but who want to know the reason for certain acquired forms and functions, this book will supply a fund of general information, and throw light on many puzzling questions. There is scarcely a department of botany which does not yield some interesting topic, and scarcely a specialist who will not find something regarding his particular field.

The "domestic economy" of plants, their food, drink, digestion, and peculiar habits, also supply most interesting questions, and the familiar wonders of carnivorous and parasitic plants will never lose their charm. The problems of geographical distribution of extinct and modern floras, and the special adaptations of plants to their surroundings and to the animal life about them also furnish a variety of interesting topics. The general principles of the physiology of plants, their relations to the soil, to light and heat, and their growth as well as their ultimate structure is also a wide field for exploration. After the study of their structure a knowledge of their relation to other plants is a necessity, resulting in a brief survey of the field of systematic botany.

The translators deserve much credit for preserving the original charm and simplicity of style of the author, and for rendering the book as free from technicalities as was possible. All the plates and cuts are the same as those used in the German edition, by permission of the author, and the colored plates are not only very interesting but decidedly ornamental. We bespeak a cordial welcome from all lovers of plants, and promise a widening of the realms of thought and observation to all who are fortunate enough to become its possessors.

N. L. BRITTON

COLUMBIA COLLEGE

Geological biology. An introduction to the geological history of organisms. —By HENRY SHALER WILLIAMS. New York: Henry Holt & Co., 1895. 395 pp. $2.80.

This is something quite new in the line of text-books. The list of books upon palæontology, upon general geology, and upon evolution, reaches into the hundreds; but although it is from the study of fossils that final proof of evolution must be drawn, this subject has not been treated in a way that is accessible to the average American student. Those who follow the progress of the science of geology know that Professor Williams and others have been bringing forward proof of evolution from the great rock record of the earth's crust; and those who have had the opportunity of listening to Professor Williams's lectures know that he has bodies of important fact upon the subject.

It is this in part which is gathered into the book under review. The lectures first given at Cornell University are modified and presented here for the general reader and the student of geology. One who knows of these lectures is somewhat disappointed to find that only a part of his material is included.

After some introductory matter, including a very detailed discussion of the origin and meaning of the names employed by geologists to indicate the divisions of the geological timescale, and something upon the rocks which inclose fossils, as well as upon the nature, range, and distribution of fossils, there are chapters upon evolution, and questions involved under that general term, and a discussion of the meaning and importance of classification. Then follows a series of specific examples of evolution in different groups of fossils, mostly those which the author himself has worked out. Accompanying this is a philosophical discussion of the facts and principles involved; and the last chapter is a kind of summary of the grand results stated as a series of philosophical conclusions.

The book is not easily summarized; it must be read, and even thoughtfully studied, if one would understand what it contains. In passing an opinion upon the treatise, one must consider the intention of the author, which he states to be twofold: (1) to furnish a book which shall be of use to the college student who has made a beginning in science, and (2) to furnish a geological view of the question to the general reader who is interested in evolution.

Certainly the first object is attained, for the book is a scientific contribution of great value and it treats a difficult and important subject in a philosophical manner. The facts are real facts, and they are built together in such a way that the student sees that they lead to conclusions of high importance; and these conclusions are pointed out by the author.

In the college, fossils have in the past been used mainly to indicate the age of the rocks. They are dead records of something long since passed away; and to the average student they are little more than meaningless names, difficult to learn and easy to forget. In this book each fossil is shown to be a part of a life and development which is even now in progress, though this particular individual or species has disappeared. It is a part of the great story of the earth: not an isolated individual, but a letter of a word in the story; and Professor Williams has put together enough of these words to point out some of the important events in the evolution of life on the earth. It is only a beginning; but we may well hope that the book will serve as the foundation upon which others may build. It should certainly make for itself a place in the college.

As for the general reader, he must certainly have a decided interest in the subject and some knowledge of science, particularly the science of geology, if he would profit from the book. Such persons will find stores of matter for thought, and much information concerning the real basis for the belief in evolution. The teacher of the secondary school who is well trained in science can get from this book much that will be of use in his instruction.

The most serious adverse criticism that I would make is that the illustrations of evolution are so few. In Professor Williams's specialty, the Brachiopods, there are full and excellent instances furnished; but the other groups are not so well favored, and the work of other investigators is not made so much use of. There is a certain advantage in this, for we thus get the author's best; but the general student would be glad to know something of the general results of other workers also. If it is space that it is needed, some might have been gained by the omission of chapter ii, which deals with the geological time-scale. While of great value by itself, being perhaps the best statement of the meaning of this which has been published, its bearing upon the body of the book does not seem to be of vital importance.

While, in the minds of many, the word science suggests infidelism, and evolution is considered as synonymous with atheism, it is interesting to note the fact that this book is itself an argument for the truth of the belief in God. Many of the leading men of science find evidence of the Creator in the science which they are investigating; and it is well known that Professor Williams, as well as his eminent predecessor at Yale, and his former teacher, Professor Dana, have found their belief in Christianity strengthened rather than weakened by their studies. When so eminent a thinker as Professor Williams, as one of the results of his profound thought on the subject, finds himself driven to the conclusion quoted in the following paragraph, we may even hope to hear the doctrine of evolution advocated from the pulpits of the smaller churches as it is now from the larger ones.

" Any one who is not already prejudiced against the notion of God, cannot fail to see in the theistic view of the Creator, in which eternal will and purpose constitute the powers and potencies back of phenomena, a more rational and satisfactory theory of the universe than the materialistic view in which the same powers and potencies, invisible and infinitesimal, are made to be the endowments of an infinite number of undying, determinant, organic units."

This book may certainly be strongly recommended for the college, and it is to be hoped that it may serve as a basis for much more instruction of this nature; it will be found to be most interesting and instructive to the general reader with strong tastes for natural science; and it will prove to be useful and comforting reading for that body of clergymen who still consider evolution an invention of the evil one.

The style of the book is clear and philosophical, perhaps somewhat heavy in places; and the publishers' work is of the highest order. There are 120 illustrations, all well selected and illustrative of important points. One of the excellent features of the book is the clearly defined division into paragraphs, with distinct headings in a different type, so that one may see the general contents of a chapter at a glance. There is a good index; but strangely there is no list of illustrations. It is one of the notable books of science published during the year.

RALPH S. TARR

CORNELL UNIVERSITY,
ITHACA, N. Y.

Fairy Tale and Fable—By JOHN G. THOMPSON, Principal State Normal School, Fitchburg, Mass., and Thomas E. Thompson, Superintendent of Schools, Leominster. Boston and New York: The New Century Educational Company, 1895. 144 p. 60 cents.

Since Mr. Scudder wrote his *Fables and folk stories*, many others have tried to find the "mixture which Alice drank in Wonderland, when she wished to bring her head just to a level with the small people whom she had discovered." Hundreds of school children have read Mr. Scudder's book instead of the ordinary Second Reader, and have, by means of it, received a delightful introduction to real literature. This new *Fairy tale and fable* is an attempt to adapt the same kind of reading matter to even smaller people, for it is designed for first-year pupils. With the help of a skillful teacher, first-year pupils will read the book; but to set before young readers so much precious material before they have learned to recognize common syllables at sight, is not to give them an introduction to real literature.

The authors give in the preface a list of two hundred words, and state that these and about three hundred more have been used in writing the book—"less than two new words to a page." After reading this statement one is not surprised to find that the style is often artificial and somewhat awkward.

Here and there in the book is a page of quotations from literature. These are well selected, and may be used with profit in reading exercises; but there seems to be no reason why any mention should be made of their authors. The names Moore, Emerson, Ovid, Southey, Tennyson, and Whitney, are all on one page, and they look strangely out of place in a primer. A child does not care to know who said a wise or a beautiful thing. He is almost the only critic whose judgment of literature is not influenced by mere names.

As stated on the cover, the book is illustrated by reproductions from Landseer, Rosa Bonheur, and other great artists. These illustrations are intended to serve as an introduction to art. The numerous full-page pictures will be a source of such delight to children that, perhaps, they will fail to notice that a few of the pictures do not illustrate the stories they accompany. The six illustrations that are placed at right angles to the reading matter on the opposite pages will tease the bright child who is able to "keep the place," and at the same time look at a picture.

Notwithstanding its defects, *Fairy tale and fable* will make an excellent text-book. It is simple, interesting, carefully graded, and will be especially helpful to children who are learning to read a phrase at a glance.

EMMA L. JOHNSTON

TRAINING SCHOOL FOR TEACHERS,
BROOKLYN, N. Y.

NOTES ON NEW BOOKS

Mention of books in this place does not preclude extended critical notice hereafter

A very useful and practical book, that many a young teacher will greet with enthusiasm, is the *First school year*, by Katherine Beebe. It is a friendly and suggestive, rather than formal and didactic, guide to an understanding of the aims and processes of teaching of the most elementary character. It is a happy blending of kindergarten and elementary-school methods (Chicago: The Werner Company, 1895. 147 p. 50 cents).——Dr. Hering's famous paper on *Memory and the specific energies of the nervous system*, written a quarter of a century ago, is now put within the reach of the English and American public in an accurate and scholarly translation (Chicago: Open Court Publishing Co., 1895. 50 p. 15 cents).——A collection of sacred music for use in schools, that combines sound musical judgment with literary taste and skill, is the *Hymnal for schools*, edited by Messrs. Ives and Woodman. It has no equal (New York: Fords, Howard & Hulbert, 1895. 294 p. 50 cents).——The thought of tracing the chief events of modern scientific advance, in connection with the lives of the men prominently identified with them, is a fruitful one. Professor Bonney admirably illustrates its possibilities in his *Charles Lyell and modern geology*, which is the fifth volume of the Century Science Series (New York: Macmillan & Co., 1895. 224 p. $1.25).——Eleven learned and scholarly papers, by the late Professor Nettleship of Oxford, dealing with philological subjects, are brought together in his *Lectures and essays*, second series (New York: Macmillan & Co., 1895. 268 p. $1.90).——A very useful and attractive help to the literary study of that much-neglected literary masterpiece, the Bible, is supplied in Kent's *Wise men of ancient Israel and their proverbs* (Boston: Silver, Burdett & Co., 1895. 208 p.

$1.25).——Canon Isaac Taylor, whose indefatigable industry in hunting out the history of things, both strange and familiar, is well-known, has just produced a highly entertaining and valuable book on *Names and their histories*, so arranged as to be capable of use in connection with the study of geography and history, or as a handy book of reference (New York: Macmillan & Co., 1896. 394 p. $2).——The first fifty of the Old South Leaflets are now issued in two handsome volumes that ought to be found in the home of every teacher of American history and in the library of every high school (Boston: Published by the directors of the Old South Meeting House Work, 1896. $1.50 each).——Mr. William Morton Payne, whose sane and forceful writing in the editorial pages of *The Dial* is widely appreciated, has brought together some of his best work in literary criticism and education in a small volume entitled *Little Leaders* (Chicago: Way & Williams, 1895. 278 p. $1.50).——Few books intended for beginners in German have been more popular than *Studien und Plaudereien*, by Professor S. M. Stern. Mr. Stern is that very rare product, a born teacher, and his skill in presentation is evidenced on almost every page of this work, which now appears from handsome new plates in a sixteenth edition (New York: Henry Holt & Co., 1895. 279 p. $1.10).——Heath's Modern Language Series is enriched by *Märchen and Erzählungen für Aufänger*, by H. A. Guerber (Boston: D. C. Heath & Co., 1895. 154 p. 60 cents).——One of the most striking additions to the apparatus for the teaching of English is *Selections from Carlyle*, by Mr. Boynton of Phillips Andover Academy. The selections themselves are capital, all being from the work of Carlyle's "earliest and most fruitful period." The notes are adequate, helpful, and scholarly (Boston: Allyn & Bacon, 1896. 283 p. 75 cents).——A very interesting and instructive book of a somewhat novel type is the *History of oratory* by Professor Sears of Brown University. The genesis and development of oratory are traced from the age of Pericles through Cicero, Quintilian, the Church Fathers, the mediæval preachers, Savonarola, Luther, Bossuet, Mirabeau, Burke, Sheridan, Fox, John Randolph, Webster, Everett, and Sumner to Wendell Phillips and George William Curtis (Chicago: S. C. Griggs & Co., 1896. 440 p. $1.50).——An outline of *Old Testament history*, with copious biblical references and maps, adapted to high-school students, has been prepared by Dr. T. H. Stokoe of London (New York: Macmillan & Co., 1895. 257 p. 60 cents).——As a book of reference Phillips's *Handbook of German literature* will be found very useful, because of its condensed form and its well-made chronological tables (New York: Macmillan & Co., 1895. 157 p. $1.00).——Literature on Tennyson is growing apace. From the competent hand of Mr. Arthur Waugh now comes a study of his life and work, under the title of *Alfred, Lord Tennyson* (New York: Macmillan & Co., 1896. 268 p. $2.00).——The latest issue in the Contemporary Science Series, *Evolution in art*, by Alfred C. Hadden, of the Royal College of Science, Dublin, is a very good contribution to our summaries of anthropological knowledge. (New York: Charles Scribner's Sons [Imported], 1895. 364 p. $1.25).——Mr. Rouse Ball's well-known and authoritative *History of mathematics* is now presented in a very brief and very clear *Primer of the history of mathematics*, which every teacher of mathematics ought to possess, unless he already has the latter work (New York: Macmillan & Co., 1895. 146 p. 60 cents).——The latest issue in Professor Ashley's series of Economic Classics is the most interesting thus far published. It is a description of the *Mercantile system and its significance* by Professor Gustav Schmoller (New York: Macmillan & Co., 1896. 95 p. 75 cents).——The appearance of a new edition, the third, of Professor J. Shield Nicholson's *Treatise on money* is a healthy sign in, financially speaking, unhealthy times (New York: Macmillan & Co., 1895. 431 p. $2.00).——Dr. Chamberlain's book on the *Child and childhood in folk-thought* (New York: Macmillan & Co., 1896. 464 p. $3.00), and Professor Sully's *Studies of childhood* (New York: D. Appleton & Co., 1896. 527 p. $2.50), will be noticed at length in an early issue of the REVIEW.

IX

EDITORIAL

In June last there was told in these pages the story of the struggle carried on for the reform of the public-school system of the city of New York, under the auspices of the Committee of Seventy. Though that Committee is no longer in existence, the struggle has again been begun, and its progress and issue are of moment to the country at large.

The alliance of Platt-Tammany politicians, whose friends and dependents are now to be found in the New York school system in large numbers, defeated the Committee of Seventy's reform bill in the Senate in April last. The Board of Education, largely reorganized by Mayor Strong, themselves determined to propose a bill to the legislature of 1896. A committee was therefore empowered to take the matter up and formulate a bill. The chairman of this committee and its leading spirit, if the newspapers are correct, was Mr. Charles Strauss, a lawyer and a prominent member of Tammany Hall. In the words of *Harper's Weekly* for February 1, "The forms of an elaborate investigation were gone through with, public hearings were held, and all the impressive paraphernalia of deliberation were called into play. As a result there was reported a bill rearranging the public-school system of New York, that is undoubtedly the worst of all the many proposals that have been made in recent years, and some of them were bad indeed."

This bill, which in New York is known indifferently as the "Strauss bill" and the "Tammany school bill," is in thirty-seven sections, all but two or three of which are mere restatements of existing law. Verbal changes are numerous, but generally insignificant; in two or three points of detail only is there improvement over existing law. All this appearance of reform and renovation is apparently for the purpose of retaining every particle of the present cumbrous, complicated, and antiquated machinery under which the system has been weighed down for years. The local boards of school trustees are fastened upon the schools more firmly than ever; their patronage and jurisdiction are equalized, by wiping out the twenty-four unequal wards and substituting forty-five equal districts. The language of the Act gives ground for the suspicion that it is the intention to give to each trustee a school as a private perquisite. It will be remembered that in New York these local trustees nominate all principals, appoint all teachers, and make all repairs.

This, then, is the measure that it is proposed to offer to New York city as a "reform" bill. It has been openly said of the Strauss bill that, since it conciliated the trustees and the mutual benefit societies of teachers, it made no difference what the "idealists" and "theoretical reformers" thought of it; they are supposed to amount to nothing.

It will be interesting to teachers throughout the country to know what the intelligent and independent citizenship of New York thinks of this measure. This may best be made clear by a few quotations from well-known New York journals.

Harper's Weekly of February 1 says of this bill: "The pending measure, which may be most properly described as the Tammany school bill, actually increases these local boards from twenty-four to forty-five, and allots the patronage equally among them. The insolent daring of this proposition has taken those interested in school reform by surprise, for it seems to overlook entirely the lessons of the popular uprising of 1894 that resulted in Mayor Strong's election. But the very audacity of this Tammany measure will, doubtless, lead to its defeat at Albany. To bring about that defeat is the duty of every good citizen and of every right-minded legislator."

The *Critic*, of the same date, in the course of a scathing review of the bill, says: "It is sheer impudence to apply the name of 'school reform bill' to such a measure as Mr. Strauss has wheedled and bulldozed a majority of his colleagues into accepting. It refuses the only form of relief that can ever be effective, and is framed, not only to defy the so-called 'theoretical reformers,' but to meet the views and purposes of the very individuals from whose domination the schools are now suffering."

The *Evening Post* of January 13 refers to the Strauss bill as "contradictory, ill-digested, and vicious," and then proceeds: "Probably no business man or student of school systems will want to hear any more of Commissioner Strauss's bill than that it divides the government of the schools among 302 persons (allowing for 10 assistant superintendents), organized into 62 boards—a board of education, a board of superintendents, 45 boards of trustees, 15 boards of inspectors, in addition to a superintendent of school buildings. If anybody outside of Tammany Hall, or its circle of influence, was able to devise as unworkable and inefficient a scheme as that, he ought to apply for admission at once. The explanation of this complex plan is that it 'keeps the schools in touch with the people'—meaning the local politicians and ringsters who are now in control."

The *Tribune* of January 31 speaks of the bill as having "no substantial reason for existence," and adds: "We cannot admit for a moment that there is even so much as a faint hope of making the schools what they ought to be so long as the responsibility is divided by preserving to the trustees functions which, as experience has shown, they are unfit to perform, but upon whose faithful and wise performance the efficiency of the educational establishment nevertheless depends."

The *World* of February 8 concluded an editorial on the Strauss bill with these words:

"An organized effort is to be made in this city to bring enlightened public opinion to bear for the defeat of this iniquitous scheme. It should command the earnest and active help of every decent citizen—male and female alike—who can in any way aid. The work to be done is the rescue of the public schools from prostitution to the vilest political purposes. It is a difficult task, but not a hopeless one, if the friends of education bestir themselves."

These quotations might be multiplied indefinitely. They prove beyond a shadow of a doubt that the intelligence of New York is unanimous in demanding a school system of undivided power and responsibility, and that it is equally unanimous in opposing the ward-trustee system of school government which has made the New York schools what they are.

By a vote of ten to five, six members being absent, the Board of Education stultified itself by approving the Strauss bill, and on January 29 it was introduced in the Senate at Albany by Senator Page of New York. It was referred to the Committee on Cities, and at this writing has not been reported.

As soon as the character of the Strauss bill became known the opposition to it in New York crystallized rapidly. The City Club acted first in the matter, and, soon after, on January 31, the following call for the organization of a citizens' committee on public-school reform was issued.

> The Legislature will this winter be called upon to consider the reorganization of the common schools in this city, and we learn that a bill dealing with the subject has already been prepared.
>
> You will remember that the bill last year presented by the Committee of Seventy, after passing the Assembly, was defeated in the Senate, although it had received almost unanimous commendation in the press, and from persons acquainted with modern and rational methods of administering public schools.
>
> It is desirable that the work of school reform advocated by the Committee of Seventy, and by the mass meetings held under its auspices, should be earnestly pushed forward, and to this end that a committee should now be formed of citizens who believe that the great work of public education should be conducted in New York according to the principles which prevail in other American cities; that authority should be concentrated, responsibility fixed, politics excluded, and that work which requires professional attainments should be intrusted to trained men and women.
>
> With the assurance that no greater demand will be made upon your time than may suit your convenience, you are urgently invited to become a member of this Citizens' Committee on Public School Reform, and signify your acceptance of this invitation at the earliest possible moment to Mr. S. H. Olin, No. 32 Nassau Street.
>
> ABRAM S. HEWITT, STEPHEN H. OLIN,
> ELIHU ROOT, J. KENNEDY TOD,
> NICHOLAS MURRAY BUTLER.

Favorable replies were at once received from large numbers of prominent citizens. The committee was organized on February 6, with ex-Mayor Abram S. Hewitt as chairman, John C. Clark as secretary, and J. Kennedy Tod as treasurer. Mr. Clark, it will be remembered, was the gentleman who, as secretary of the sub-committee of the Committee of Seventy, bore the brunt of the fighting at Albany in 1895, and acquitted himself with such distinguished credit.

A glance at the following list of the membership of this Citizens' Committee will show at once that it is thoroughly representative of the very best and most earnest elements in the life of New York. Before its onslaughts, aided by every newspaper in the city, the politicians and the public-school "ring" must eventually give way. The committee is constituted as follows:

Abram S. Hewitt, *Chairman*,
Elihu Root,
Stephen H. Olin,
J. Kennedy Tod, *Treasurer*,
Nicholas Murray Butler,
W. W. Niles, Jr.,
Henry M. MacCracken, LL. D.,
W. Bayard Cutting,
Daniel G. Rollins,
James B. Reynolds,
Ira Davenport,
Howard Payson Wilds,
A. S. Frissell,
Joseph Larocque,
Francis Lynde Stetson,
Payson Merrill,
Bowles Colgate,
James C. Carter,
Henry W. Taft,
Alfred R. Conkling,
J. Augustus Johnson,
Henry Holt,
Nicholas Fish,
William M. Ivins,
John B. Pine,
Edmund Clarence Stedman,
Henry E. Howland,
Spencer Trask,
H. Walter Webb,
Charles A. Peabody, Jr.,
Edmond Kelly,
J. West Roosevelt, M. D.,
T. Frank Brownell,
Jacob H. Schiff,
George F. Butterworth,
Horace E. Deming,
James W. Pinchot,
Percival Knauth,
Edward D. Page,
Robert Underwood Johnson,
Clarence C. Buel,
W. H. Draper, M. D.,
E. A. Quintard,
J. H. Van Amringe,
Charles M. Perry,
Otto T. Bannard,
Charles H. Russell,
James J. Goodwin,
J. W. Miller,
James B. Ford,
Charles L. Atterbury,
John S. Kennedy,
A. Jacobi, M. D.,
William Jay Schieffelin,
C. Grant LaFarge,
J. B. Bishop,
Henry L. Sprague,
D. B. St. John Roosa, M. D.,
George L. Rives,
Francis P. Church,
Morris K. Jesup,
John Harson Rhoades,
Charles R. Miller,
J. Hampden Robb,
Austen G. Fox,
John Brooks Leavitt,
Valentine Mott, M. D.,
Joseph B. Gilder,
William B. Hornblower,
John C. Clark, *Secretary*,
William Travers Jerome,
Isaac N. Seligman,
Walter G. Oakman,
Alexander Maitland,
Lewis L. Delafield,
C. H. Coster,
Arthur H. Ely,
Frank J. Goodnow,
Francis S. Bangs,
Almon Goodwin,
Francis P. Kinnicutt, M. D.,
Edward R. Hewitt,
Daniel Huntington,
Samuel D. Babcock,
George M. Cassatt,
James W. Pryor,
L. Emmett Holt, M. D.,
Lester W. Clark,
David Keane,
Frederic H. Betts,
William A. Keener,
Boudinot Keith,
Fulton McMahon,
Hermann H. Cammann,
James R. Burnet,
Francis Delafield, M. D.,
George H. Adams,
Francis H. Stoddard,
Robert W. de Forest,
J. Noble Hayes,
Henry G. Sedgwick, Jr.,
Weldon C. Percy.

The platform adopted by the Citizens' Committee sets forth clearly the need for public-school reorganization and reform, indorses the Committee of Seventy's bill of 1895, vigorously opposes the Strauss bill, and refuses to accord the name of school reform to any movement or proposition that does not include the absolute abolition of the local or ward-trustee system of school government. Along these lines the fight is being vigorously pushed. That the politicians and school "ring" are badly frightened is amply proved by their frequent and hurried consultations, by their frantic visits to newspaper offices to urge a "let-up" in the matter, by their threats, and by the torrents of abuse that are being poured out upon those most active in the work of the Citizens' Committee.

In no other country in the world perhaps, in no other city in the United States certainly, would the spectacle be possible of the intelligence and civilization of a community struggling to reclaim their own public schools from a horde of bandits and barbarians. Yet it is to just such a situation that years of Tammany rule, aided by a generation of public indifference, have brought the metropolis of the United States.

In connection with the work of the important committee on college entrance requirements, designated by two Departments of the National Educational Association, already mentioned in this REVIEW (XI: 102), it is significant that a most important series of conferences on the same topic began in New York on February 1, participated in by representatives of Columbia, Cornell, Harvard, Pennsylvania, Princeton, and Yale. These conferences were arranged for by President Low of Columbia, acting with the presidents of the other colleges named. He, in turn, was led to take the matter up through the urgent representations of the New York Schoolmasters' Association, whose convictions on this subject were well voiced by Mr. Wilson Farrand of the Newark (N. J.) Academy, in his paper published in the EDUCATIONAL REVIEW for December last.

The specific object of the conferences was to try to reach some agreement, on the part of the six institutions participating, as to the form and content of college entrance requirements. Identity is not aimed at; but it is held, and rightly, that any college demanding Greek or physics, for example, for entrance should not frame some fantastic requirements of its own, but adopt a rule that will permit the schools that prepare for several colleges to teach in one class, or group, the pupils in Greek or in physics, regardless of whether they are looking toward Harvard or Princeton or Cornell. Representative schoolmasters participated in each conference, and important results are expected when the six colleges hear and act upon the reports of their conferees. It need hardly be pointed out that the results reached by the six colleges named will be of great assistance to the work of the National Committee.

There are two points of weakness in the provision for these conferences. The first is that the requirements for the scientific courses were not included in the subject of reference. These requirements are even more diverse and conflicting than those for courses in arts and letters, and each year they affect an increasing number of students. The second point of weakness is that the conclusions of the six groups of specialists ought to have been submitted for revision and codification to a small committee of educationists, who, with a broad outlook and a scientific method, could readily reduce these conclusions to a workable form that would be pedagogically sound. It will be remembered that the able conferences called by the Committee of Ten would have been lame and impotent had not that committee itself revised and correlated their findings.

The members of the conferences mentioned, which began at Columbia College on February 1, were:

Latin—College conferees: Harvard, Prof. Smith; Yale, Prof. Morris; Princeton, Prof. Westcott; Pennsylvania, Prof. Gibbons; Columbia, Prof. Peck; Cornell, Prof. Bennett. Schoolmasters: C. F. P. Bancroft, Phillips Academy, Andover, Mass.; W. C. Collar, Latin School, Roxbury, Mass.; Wm. Gallagher, Williston Seminary, Easthampton, Mass.; D. A. Kennedy, Dearborn-Morgan School, Orange, N. J.; H. U. King, School for Boys, Stamford, Conn.; G. M. Whicher, Packer Institute, Brooklyn, N. Y.

Greek—College conferees: Harvard, Prof. Morgan; Yale, Prof. Seymour; Princeton, Prof. Winans; Pennsylvania, Prof. Lamberton; Columbia, Prof. Perry; Cornell, Prof. Bristol. Schoolmasters, E. G. Coy, Hotchkiss School, Lakeville, Conn.; J. G. Crosswell, Brearley School, New York City; R. P. Keep, Free Academy, Norwich, Conn.; J. C. Mackenzie, Lawrenceville School, Lawrenceville, N. J.; F. S. Morrison, High School, Hartford, Conn.; John Tetlow, Girls' High and Latin School, Boston, Mass.

History—College conferees: Harvard, Prof. Hart; Yale, Prof. Adams; Princeton, Prof. Sloane; Pennsylvania, Prof. McMaster; Columbia, Prof. Dunning; Cornell, Prof. Tyler. Schoolmasters: Wilson Farrand, Newark Academy, Newark, N. J.; A. L. Goodrich, High School, Salem, Mass.; R. G. Huling, English High School, Cambridge, Mass.; E. W. Lyttle, High School, Watertown, N. Y.; J. L. Stewart, Northeast Manual Training School, Philadelphia, Pa.; Isaac Thomas, Hillhouse High School, New Haven, Conn.

Mathematics—College conferees: Harvard, Prof. Byerly; Yale, Prof. Phillips; Princeton, Prof. Fine; Pennsylvania, Prof. Doolittle; Columbia, Prof. Van Amringe; Cornell, Prof. Wait. Schoolmasters: W. F. Bradbury, Latin School, Cambridge, Mass.; A. H. Cutler, Cutler School, New York City; Fletcher Durell, Lawrenceville School, Lawrenceville, N. J.; J. G. Estill, Hotchkiss School, Lakeville, Conn.; S. A. Farrand, Newark Acaddemy, Newark, N. J.; L. R. Hunt, Free Academy, Corning, N. Y.

French—College conferees: Harvard, Prof. de Sumichrast; Yale, Prof. Luquiens; Princeton, Prof. Harper; Pennsylvania, Prof. Rennert; Columbia, Prof. Cohn; Cornell, Prof. Crane. Schoolmasters: L. Boisse, Brearley School, New York City; C. H. Grandgent, Supervisor Public Schools, Boston, Mass.; John Meigs, Hill School, Pottstown, Pa.; G. W. Rollins, Latin School, Boston, Mass.; Julius Sachs, Sachs' Collegiate Institute, New York City; I. H. B. Spiers, Wm. Penn Charter School, Philadelphia, Pa.

German—College conferees: Harvard, Prof. Bartlett; Yale, Prof. Palmer; Princeton, Prof. Humphreys; Pennsylvania, Prof. Learned; Columbia, Prof. Carpenter; Cornell, Prof. White. Schoolmasters: C. F. Brede, Germantown, Pa.; T. B. Bronson, Lawrenceville School, Lawrenceville, N. J.; C. F. Kayser, High School, Newark, N. J.; Albert Leonard, High School, Binghamton, N. Y.; W. T. Peck, High School, Providence, R. I.; Randall Spaulding, High School, Montclair, N. J.

Superintendent Skinner, having taken counsel with the leading educators of the State of New York, has prepared a bill, which Senator Malby has introduced into the Senate, repealing the preposterous temperance physiology bill passed a year ago, and making proper provision for the subject of physiology and hygiene. It is greatly to be desired that this bill should become a law. It provides that the public-school course of study shall include arithmetic, geography, English grammar, American history, reading, writing, spelling, and physiology and hygiene, including the effects of stimulants and narcotics upon the human system. No one of these topics is singled out for emphasis, or for teaching by special methods or at definite times. This is, of course, as it should be. A school programme made by a legislature is about as reasonable as a dictionary or encyclopedia edited by the same high authority.

Even the inclusion of the words "including the effects of stimulants and narcotics upon the human system" in the new bill is a concession to the fanatics. Why omit the effect of lack of exercise, or of over-eating, or of over-work? The truth of the matter is, as President Jordan points out in his striking and courageous article in the *Popular Science Monthly* for January, that this whole temperance physiology movement is an attempt to use the public money and the public schools for a crusade which, while perhaps innocent in itself, is based upon a foundation of misrepresentation, falsehood, and bad logic. The Grand Army of the Republic or the Knights of Labor might just as well get laws passed to further their aims and objects.

Periodically, for some years past, reports have come from Chicago that the Cook County Normal School was in danger. Its appropriation was about to be reduced, or cut off entirely, or its grounds and buildings were to be taken away. Teachers in other parts of the country, well knowing the national and international reputation of the school, recognizing to the full the eminent services of Colonel Parker and his incomparable faculty to the cause of sound popular education, and accustomed to being told that Chicago led the world's civilization, did not suppose for an instant that there was any real danger. Chicago and Cook County had within their limits one of the most useful and distinguished educational institutions of the world, together with the man who had given it usefulness and distinction; and it was taken for granted that common sense, not to mention ambition and desire for reputation, would lead Chicago and Cook County to foster and develop the Normal School as their greatest title to educational distinction. Other cities and counties have tall buildings, universities, and a progressive spirit; but there is only one Cook County Normal School, and only one Colonel Parker. The opposition to the school and its principal has, therefore, been universally ascribed to the activity of self-seeking demagogues, local politicians, and other small fry, who might be able to raise a disturbance, but who could not do any real damage.

With the rapid territorial expansion of Chicago, less and less has been left of Cook County outside the city limits. Retrenchment in county expenses became necessary, and it was felt desirable to save the $30,000 or $35,000 that went annually to the support of the Normal School. The county commissioners, therefore, a few months ago, offered the school to the city of Chicago on certain conditions that involved the maintenance of the Normal School as such. Here was the demagogue's opportunity. The school was too far to one side to be available as a city normal school; it would cost too much; Colonel Parker was a disturbing element; and last, and most crushing, the methods in vogue in the Normal School would not readily adapt themselves to the city "System." One may well rub his eyes at this array of argument, and wonder whether it is not New York, rather than Chicago, which is to be found in Cook County, Illinois. Along these and similar lines a strong personal and political opposition was developed to the proposal to accept the offer of the county commissioners. By prolonging the discussion it was hoped to starve out the present staff of the school, even if the school itself should be eventually transferred to the city.

The meanest opposition of all came from so-called intelligent persons who were the proud possessors of "views" on education, many of which Colonel Parker felt it his duty to criticise and condemn, and who objected to the continuance in a post of authority and prominence of a man whose ideas did not in all respects agree with theirs. In the face of the recent hearty and unanimous indorsement of Colonel Parker by the Illinois State Teachers' Association, many leaders in which have been disagreeing with the Colonel for years, and will probably continue to disagree with him for many years to come, such action on the part of men and women in Chicago is little short of pitiable.

But none of this opposition was strong enough to overcome the arguments and the demonstrations of popular support and approval called out in Colonel Parker's behalf. On January 29 the Chicago Board of Education voted to take over the school from the county commissioners, fourteen votes being cast in the affirmative and two members being excused from voting. The present staff was continued until July, when plans for the future will be finally decided upon. Of course, Superintendent Lane will seize upon this opportunity to strengthen Colonel Parker's hands, and so to provide Chicago with the best teachers' training school in the world. No other city has anything approaching it. The fact that Colonel Parker will thus be enabled to widen the scope of his influence and usefulness, so as to include in it a great municipal school system, is itself an important event in our educational history.

Perhaps it is not worth noticing, but the attack made on Colonel Parker at the Board of Education meeting by one Thornton, whose title to fame is the guerrilla warfare that he has been carrying on for years against Colonel Parker and the Normal School, was peculiarly despicable. It consisted, among other things, in demanding that a principal be put at the head of the Normal School "who at least has a collegiate, academic, or high-school education." Colonel Parker's breadth of culture is well known, and he is entitled to the highest praise for the sacrifices he has made to carry on his studies in psychology, art, literature, and science during thirty years of incessant labor. From the days when he sat on the benches of the University of Berlin to the present he has been an omnivorous student. It is humiliating to be obliged to mention such facts, but unfortunately conditions surrounding a public career in this country often make it necessary.

The French are waking up to the wisdom of reforming their higher education so as to make it more attractive to students from other countries desiring to carry on advanced study, as well as more useful in itself. A recent important reform is described in the New York *Evening Post*, as follows:

> Some time ago a committee of prominent French and American educators started a movement looking to an increase in the facilities at the University of Paris, for advanced study and the distribution of degrees, similar to those which have attracted English and American students to Germany. The correspondent of the London *Times* in Paris, writing on this subject, says: "As a proof of the serious way in which this committee, and particularly, perhaps, M. Michel Bréal, the philologist, has entered into the movement, I am bound to call attention to the promulgation of a decree reforming the Licence ès Sciences. This decree chronicles the first substantial victory of the committee. Partially owing to the greater liberty permitted in the choice of studies, the possibility of moving from one university to another, and the privilege of being examined when they wished, English and American students have hitherto patronized almost exclusively the German universities. The new decree will permit France to offer, at least as far as the scientific faculties are concerned, attractions equal or superior to those of Germany, As compared with the old regulations, the important provisions of the new decree are as follows: First, the principle of election is introduced into the groups of studies chosen by the student; secondly, the student may migrate from one institution to another; and, thirdly, he may pass his examinations as he chooses, either singly or *en bloc*. After taking the Licence, the student may secure the doctor's degree upon presenting a satisfactory dissertation. In some respects the French system will be superior to the German. Under the latter the candidate submits his thesis first, and passes his examination afterward, the doctorate being the sole recognition he receives. In France, on the contrary, the student by passing his examination first will secure a certificate for every subject which he takes up, and will receive the Licence when he has completed the whole group, regardless of whether he ever takes the doctorate or not. The credit for these important changes belongs primarily to MM. Bréal, Barboux, and Liard."

The annual report of President Eliot of Harvard, that has been issued during the month, gives renewed proof of the fact that at least one American college and university is administered on scientific principles and in accordance with perfectly definite educational ideals. This proof is afforded not only by the report of Mr. Eliot himself, but also by the extremely interesting reports that accompany his, particularly those by the deans of the Faculty of Arts and Sciences of Harvard College and of the Graduate School.

Mr. Eliot takes occasion, for the hundredth time, to put to confusion those theorists who are eternally repeating the long since discredited objections to the elective system. He shows clearly, from the statistics of a decade, that the subjects usually and most largely studied are just those that were to be found in the old college course, and yet that these constitute but one-eighth of the total amount of instruction offered at Harvard College. "This eighth," says Mr. Eliot, "meets the chief wants of a majority of the students, and the other seven-eighths, although indispensable for an institution with the resources and aims of Harvard College, are really provided at great cost, first to meet the intellectual wants of a comparatively small but precious minority, and secondly to meet the higher part of the needs of the great majority." Incidentally, too, Mr. Eliot points out that, as the elective principle finds its way more and more into the secondary schools, courses now given in college in English, French, German, history, and natural science should fall to the schools.

Some of the most generally interesting facts contained in the report are these:

In 1895, 142 schools and colleges and a few private tutors contributed the 511 persons who entered all the classes of Harvard College. Only 11 schools sent more than 6 pupils each, and from these 187 persons entered the college, or four-elevenths of the whole number that entered.

In the ten years from 1886 to 1895 no fewer than 132 public schools sent pupils to Harvard College. In 1895 there were 55 of these represented, and from them there came 32¼ per cent. of the incomers.

The average age of the incoming Freshmen is now diminishing. In 1895 it was 18 years and 9 months, and it is hoped to reduce it still more.

The whole subject of college athletic sports, and the problems arising in connection with them, are discussed by Mr. Eliot in a masterly way. His data and conclusions are of the utmost importance to every college in the land at which athletic sports are much developed.

The problem of Special Students is capitally dealt with by the dean of Harvard College, Professor Briggs, as are the questions arising with advanced students by Professor Peirce, retiring dean of the Graduate School.

The hard times have seriously interfered with the gifts to Harvard. While the gifts and bequests amounted to over $550,000 in 1892–93, they fell to $183,000 in 1893–94, and to $171,000 in 1894–95.

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Paper.	*Post Office.*
American Teacher,	Boston, Mass.
American School Board Journal,	Milwaukee, Wis.
Colorado School Journal,	Denver, Colo.
Educational Review,	New York, N. Y.
Education,	Boston, Mass.
Iowa Normal Monthly,	Dubuque, Ia.
Michigan Moderator,	Lansing, Mich.
New England Journal of Education,	Boston, Mass.
Northwestern Journal of Education,	Lincoln, Neb.
Ohio Educational Monthly,	Columbus, O.
Primary Education,	Boston, Mass.
Primary School,	New York, N. Y.
Popular Educator,	Boston, Mass.
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Pennsylvania School Journal,	Lancaster, Pa.
School Review,	Hamilton, N. Y.
School Bulletin,	Syracuse, N. Y.
School Education,	Minneapolis, Minn.
School Journal,	New York, N. Y.
Teachers Institute,	New York, N. Y.
Texas School Journal,	Austin, Tex.
Western School Journal,	Topeka, Kan.

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I

PRACTICABLE CORRELATIONS OF STUDIES[1]

Before stating what correlations of studies seem advisable and possible at present, I must make clear a few principles essential to any wise correlation, whose recognition will avoid many of the blunders that have placed correlation in a false light.

Correlation has been in as great danger from its friends as from its enemies. Premature attempts have been made to crystallize it into systems, to bind it down to mechanical forms often by those who failed to grasp its spirit, resulting in strange and kaleidoscopic courses of study that have given excuse to its enemies for the claim that correlation means basing school curricula upon artificial and fanciful relations, and disregarding essential unities within lines of studies. But these things are not correlation any more than bigotry is religion, or formalism Christianity. I would define correlation in courses of study as a recognition of the natural relations existing among the various departments of human activity, and such an arrangement of these departments for presentation to the child that all his knowledge shall stand clearly in his mind in its true relations to the whole and to each of the parts. If the child is to go forth from school, fitted for a life made up of relations, it is necessary that the knowledge he receives and the activities in which he engages in the course of his preparation shall all have reference to these relations; hence, courses of study which determine both the knowledge and the activities must be so arranged that isolated knowledge and reasonless activities shall be impossible.

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[1] A paper read before the Department of Superintendence of the National Educational Association at Jacksonville, Fla., February 19, 1896.

What are the various branches of study? What determines whether a study falls within one branch or another? Merely the point of view. The same object may be studied as belonging to several of the different branches. Dr. Charles McMurry has clearly pointed this out in the December (1895) number of the *Public School Journal*, using the oak tree as an example, which may be studied with equal propriety from the standpoint of the botanist, of the artist, of the lumberman, of the social scientist, of the meteorologist, of the poet. For the most part the classifications are arbitrary, were made when the world of knowledge was vastly smaller than it is to-day, and do not even fairly represent existing conditions; and the child who studies them as separate and distinct branches of knowledge, which will fit him for separate and distinct activities in life, does not get a truthful impression. Dr. Harris tells us that there are five co-ordinate branches of human learning, and that it is important that all of these receive attention in a scheme of education. But it is more important that the essential unity of these co-ordinate branches be also recognized, for these five departments are not to be conceived of as parallel lines, extending into infinity and nowhere touching; they are rather the radii of a sphere, united at the center in a vital union from which comes all the worth of each, for each is enriched with the richness of all the others.

True correlation is neither artificial nor mechanical; it cannot be fully shown even in the best courses of study. Primarily, it must exist as subjective in the mind of the teacher. If he grasp the essential unities of things, it may, to a degree, be made objective and apparent in the course of study, and still more so in the teacher's interpretation of it, but it is more important that the teacher be in himself a correlation of knowledge, than that a course of study exhibit it.

If teaching is a vital relation between teacher and pupil, and the end of teaching is the development of the pupil,—as Professor Tompkins puts it, "The union between the pupil's real and ideal self,"—then the essential thing, so far as knowledge is concerned, is that it shall be correlated in, and with, the pupil's mind. If these things are true, as I believe them to be, the first thing that we must do is to train the teachers. They must be filled with a sense of the importance of correlation as a principle. It must become subjective in them. This means a better education for the teachers, that they may have a wider grasp of the truth. But it is not necessary to wait until we have a more highly educated body of teachers in the country before we begin. The very act of grasping and administering a broad and wisely correlated course of study is in itself a liberal education.

The old courses of study were deadening to teachers as well as to pupils; the new are inspiring to both. Teachers feel that they themselves are growing while leading their pupils to the shrine of truth. The improvement of the teachers, both in spirit and in power, has been one of the most marked effects of improvement in the courses of study. No one can devote his energies first to comprehending and then to imparting the broad ideas implied in a truly correlated course of study without growing in breadth and power from the effort.

Next we must consider the preparation of a course of study, which shall furnish material for growth and stimulus to effort to both teacher and pupil, and here we come to the meat of the problem, for even the most thorough students of correlation do not all agree as to what it means and as to how it is to be made effective in schools. We are as yet seeking for truth and need to be very honest with ourselves, and to keep all our windows open. But a few things seem to me reasonably clear.

The first thing that one preparing a course of study must take into account is the distinction between form and content. This seems to me vital. A correlated course of study must include both co-ordination and subordination; a co-ordination of the great fundamental branches of human thought—the five of Dr. Harris, if you will—and the subordination of those branches which are in nature subordinate. The former constitute the content, the latter, the form of a course of study; or, to put it differently, I use the term, content, as including those branches of study which possess an intrinsic and fundamental value; they are the means by which the essential are realized. In a general way, the former consists in a consideration of man and the spiritual world and of the world of nature, and the latter, of the various arts by which man comes to a possession of nature and himself. These distinctions are not arbitrary or exact, and here it is necessary to speak of a criticism made on correlation by those who do not comprehend it. A distinction between form and content does not imply that they are to be treated as separate and unrelated entities, —that would not be correlation, but disintegration. This distinction means that they are to be so related in the teacher's mind, and are to be so presented to the child, that the relations will become subjective in him. He learns to read, not that he may learn to read, but that he may be introduced to the world of literature; hence he should learn to read by reading something worth while. He learns to write, not that he may learn to write, but that he may be able to communicate the best that is in him for the benefit of others. I do not mean by this that there should not be direct and thorough drill upon the arts themselves, but that this drill should be given after and not before the child has come to realize his need of a medium of expression. The higher end ennobles the means and makes it worth acquiring.

There are three general divisions of the work of education. The first is creating in the pupil a high purpose; the second is acquainting him with conditions, needs, and possibilities; and the third is furnishing him with the means for the accomplishment of his purpose. But these three are parts of one whole. The second, acquainting the child with conditions, needs, and possibilities—in other words, knowledge—stands as a middle term, creating ideals on the one hand, and suggesting activity, stimulating effort to acquire the means on the other. Hence, it forms the natural content of his education. The great reason for placing emphasis upon the distinction between form and content is the necessity for the comprehension of this distinction, if the adult is to have a true grasp of values in life. One principal obstacle to the progress of civilization is the failure of men to comprehend the difference between means and ends. The average man devotes his energies to the acquiring of that which is, in itself, only a means to a higher end. The eager struggle for money, for power, for social position, which renders so ignoble the life work of most of us, is due to the fact that we look upon these things as ends in themselves, and not as means to higher ends. But what can we expect of men whose early efforts have all been devoted to the acquirement of means as if they were ends?

If the child is taught to read as if the ability to read were the end of his effort; to write, as if fine writing were the best thing that he could do, what reason have we for expecting that the man will look upon money, and power, and social position, as means for helping his brother man. "Life is more than meat, and the body, than raiment." Art for Art's sake is thoroughly detestable. As well might we say, food for food's sake or the body for the body's sake. No great work of art, whether in painting, music, sculpture, or literature, was ever great merely because of the artistic skill displayed; rather has its greatness consisted in the noble thought whose expression the artistic skill made possible. This does not mean that skill is not necessary, but rather that it must be kept subordinate to the theme; this alone makes it worth while. Tennyson's musical verses did not make *In Memoriam*, but they made it possible. For the sake of writing *In Memoriam*, it was worth while that the poet should master all the arts of poesy. Nobility of purpose, exaltation of theme, whether in adults or in children, furnish the only true stimulants for laboriously acquiring the arts necessary for adequate expression. This, applied to education, dues not draw a hard and fast line between form studies and content studies, but relates them properly, so that the child always has before him the worthy aim, as an inducement to the acquiring of the adequate means. While this subordinates reading, writing, spelling, and language drill, it does not degrade them, it rather exalts them, since thus alone do they find their true place, and are ennobled by a noble purpose.

Let me here say that I do not believe, nor do I mean to imply, that these subordinate branches are to be taught wholly incidentally. It is true that power to read, write, spell, draw, and in the mechanical sense, to use language, is acquired mainly by practice in the use of these arts. It is an unconscious product, just as walking is; still, there is a technic for each of them, knowledge of which adds greatly to the power to use them effectively, and this technic must be taught specifically and thoroughly, but at the proper time and in the proper way—that is, as to time, when the child feels the need of it, that he may better attain one of the higher ends of life.

As to way, it must be so taught as to satisfy this need, so that the child may feel that he is gaining new power to aid him in the attainment of a desired end. The amount of attention to be given to this study of technic varies with the age of the child, as indicated by his school grade.

In the primary grades comparatively little attention need to be given to it. I am compelled to disagree with the opinion inferred by some from the Report of the Committee of Fifteen, that the first three years of school life should be devoted almost exclusively to the acquisition of this technic, with only incidental and casual attention to the content of the course of study. It is true that in these three years the child should acquire a fair possession of this technic; but at this age, when he is little able to grasp philosophical principles and to undertake effort with a view to remote results, it is all the more necessary to appeal to his interest. The young child will best acquire the necessary arts incidentally. The ends for which he works must be evident. Place before him a content to him valuable and interesting and immediately obtainable, and he seeks it through the medium of the necessary arts. The adult, the young man in college, may study mathematics for the sake of training his mind; the child, not so; the end that he seeks is concrete.

In the first years, then, the course of study should have for the child the richest content which he is capable of grasping. Thus will he best gain possession of the various necessary arts, and what is still more important, his mind will receive a better training and will be filled with richer thoughts, and he will emerge from these years of school with a broader horizon and a more eager desire to continue his education. Hence, in those earlier years, especial attention should be given to the study of nature and of literature—the lines of study that are at any age most broadening. As the child advances from grade to grade, more attention may be given to technic, as he becomes able to see the relations between form and content; that is, to understand the reasons why certain forms of expression are better than others.

I have dwelt thus upon the relation of form and content because I deem it the first and most important correlating principle. It remains to consider briefly co-ordination, or the relations of the co-ordinate branches of human learning in the course of study, whether they be five or fifteen. As I have said, these must all be taken into account, but not as unrelated. Here even the best of our old courses of study broke down. They attempted the education of the faculties, and ignored the unity of the human soul. They recognized variety, but not variety in unity.

In the first place, a broad course of study should be so arranged that naturally related parts of the different co-ordinated branches may be taught at the same time. I say, naturally related; I do not refer to artificial or mechanical relations, but to spiritual. Our old courses of study are full of absurd instances of variety without unity. It is no uncommon thing for a class to be studying at the same time the geography of Africa, the history of England, the plant life of Minnesota, while having for their reading lesson the story of Peter the Great, the subjects having no relation either artificial or natural.

On the other hand, there are new courses of study which are as absurd. They show "correlation run mad," as I have heard it described. I remember hearing of a day's lesson in a certain over-correlated city. The subject was the crow. The children studied the crow, read about him, drew him, wrote about him, counted him, added, subtracted, multiplied, and divided him, bought and sold him, and for aught I know, carried him out on a crow-bar. Here was no fundamental or vital relation. The co-ordinating principle was trivial and unsound, and doubtless several good lessons in history, reading, and arithmetic were spoiled for the sake of the crow.

I have said that naturally related principles of the various co-ordinated branches should be taught at the same time, but I do not mean that the relations are necessarily time relations. These would frequently be artificial, and not even suggest the spiritual unity.

I will attempt to make my thought concrete by an illustration taken from the schools of another city. A Seventh Grade class regularly study the history of the United States, the geography of North America, the writings of certain American authors, and local geology. These studies may be so timed as to suggest inevitably fundamental and vital relations. To begin with, the class are taken out for a field lesson upon the banks of the Mississippi. Here they see the fundamental rock strata, observe the great valley worn out by the waters, get specimens of rock containing the earliest fossils, see the broad plains stretching out into the boundless prairies, whose soil was deposited by the glaciers. They learn how the great Mississippi valley, with its adjacent plains, was formed. That is, they get a concrete knowledge of the physical geography of this part of the world. This leads both to the history and political geography. They learn not only the effect of early explorations on this river and on the great lakes, but they see why these explorations were made. They not only find out how these great plains were produced, but see in them the reasons for the migrations of so many people and for the vast civilization growing up in the West. The struggles of the early settlers are emphasized by the poem *Evangeline* and the travels of Irving and others, so that a complete picture of the growth of Western civilization, with an understanding of its cause, is left upon the minds of the children. A taste has been created for investigation and a love for literature, while also all this rich content has served as a basis for numberless lessons in reading, writing, and language.

I have purposely omitted mentioning mathematics in this connection, because, in my judgment, this branch is not so readily correlated with others. Certain problems of distance and travel and longitude are suggested by the other topics, but such work, while valuable, would be merely incidental, and could not serve as sufficient material for mathematical study, though even here other correlations are possible between elementary geometry and manual training.

I offer this illustration hesitatingly, for fear that some may say that it is open to the criticism of emphasizing artificial relations. If any so conceives it, it is misunderstood. The relations that I would emphasize are mostly those of cause and effect, though not altogether so. The aim is to produce unity of idea in the minds of children. Each child should have a single vivid picture including objects from all these co-ordinate branches, which would be worth infinitely more than any number of isolated facts, even though they included all of history and all of geography.

Now, as to the correlating principle for the co-ordinate branches, it must be evident that I do not believe in the concentration of the course of study about any one branch. No one branch of human learning is clearly enough defined, or essential enough in itself, to be the center of a course of study for the child. No one is so much more intimately related to the child than all the others that it can determine for them their arrangement and the selection of topics from them. The only centralizing relation in the education of the child, in reference to his destiny, and hence the first principle of co-ordination as to breadth, is that indicated in the Committee of Fifteen's Report, namely, the relation of the child to his material and spiritual environment.

Pyschology, not history, not science, determines also the longitudinal correlation of the course of study. By psychology I do not mean the old psychology, which is merely deductive logic applied to certain assumed mental phenomena, but the actual study of the child.

There are many questions concerning correlation about which there is still uncertainty, but as to what we can do in the immediate future I feel reasonably sure upon these points:

1. That the only correlation to be considered consists of the recognition of the natural and spiritual relations already existing in the world.
2. That these relations exist, if at all, in the human mind, and hence must become first subjective in the teacher, then, in so far as possible, objective in the course of study, then again subjective in the child.
3. That the relations to be considered in the course of study must include both subordination and co-ordination; a subordination of form to content, and a co-ordination of the essential departments of thought.
4. That the only center for a correlated course of study is the child. The child must be our first study; and when all the branches of human learning with which he can be brought into touch, all the activities to which he may be stimulated, are properly correlated with the demands of his nature, we will find that they are correlated with one another, and the miracle will have been wrought.

CHARLES B. GILBERT

SUPERINTENDENT OF SCHOOLS,
ST. PAUL, MINN.

II

THE NECESSITY FOR FIVE CO-ORDINATE GROUPS OF STUDIES IN THE SCHOOLS[1]

In the Report of the Committee of Fifteen it was partly assumed that the studies of the school fall naturally into five co-ordinate groups, thus permitting a choice within each group as to the arrangement of its several topics, some finding a place early in the curriculum and others later. These five co-ordinate groups were first, mathematics and physics; second, biology, including chiefly the plant and the animal; third, literature and art, including chiefly the study of literary works of art; fourth, grammar and the technical and scientific study of language, leading to such branches as logic and psychology; fifth, history and the study of sociological, political, and social institutions. Each one of these groups, it was assumed, should be represented in the curriculum at all times by some topic suited to the age and previous training of the pupil. This would be demanded by the two kinds of correlation defined in that Report as (1) "symmetrical whole of studies in the world of human learning," and (2) "the psychological symmetry—or the whole mind."

The first stage of school education is education for culture, and education for the purpose of gaining command of the conventionalities of intelligence. These conventionalities are such arts as reading and writing and the use of figures, technicalities of maps, dictionaries, the art of drawing, and all of those semi-mechanical facilities which enable the child to get access to the intellectual conquests of the race. Later on in the school course, when the pupil passes out of his elementary studies, which partake more of the nature of practice than of theory, he comes in the secondary school and the college to the study of science and the technic necessary for its preservation and communication. All these things belong to the first stage of school instruction whose aim is culture. On the other hand, post-graduate work and the work of professional schools have not the aim of culture so much as the aim of fitting the person for a special vocation. In the post-graduate work of universities the demand is for original investigation in special fields. In the professional school the student masters the elements of a particular practice, learning its theory and its art.

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[1] A paper read before the Department of Superintendence of the National Educational Association at Jacksonville, Fla., February 19, 1896.

It is in the first stage, the schools for culture, that these five co-ordinate branches should be represented in a symmetrical manner. It is not to be thought that a course of university study or that of a professional school should be symmetrical. But specializing should follow a course of study for culture in which the symmetrical whole of human learning and the symmetrical whole of the soul should be considered. From the primary school, therefore, on through the academic course of the college, there should be symmetry and five co-ordinate groups of studies represented at each part of the course—at least in each year, although perhaps not throughout each part of the year.

I said that the Committee of Fifteen partly assumed all this in regard to the five co-ordinate groups. I meant that the Committee of Fifteen had not only assumed it, but to some extent argued the question, for in the detailed consideration of literature, arithmetic, geography, grammar, and history, much pains was taken to show the scope and significance of these studies. Their differences, both objective and subjective, were pointed out. It was shown that their study calls into activity different methods of observation and different trains of thought—different categories of the mind, so to speak. It was shown objectively that these branches cover different portions of the map of human learning, lying in some places contiguous to one another, and sometimes widely separated. In the light of this explanation it will be seen that the Committee of Fifteen intended their Report to convince the careful reader that no one of these groups could be taken as a substitute for any other, and that no one of these groups could be spared from a symmetrical whole without distorting the pupil's view of the world. If this assumption of the Committee had been fully understood, and if the purpose of the Report had been manifest upon the first reading, no one would have found the Report lacking in a full treatment of the question of the concentration of studies, and no one would have been disappointed. For it would have needed no additional argument to arrive at the conclusion that if there are five co-ordinate groups neither one of which can be a substitute for the other, and each one of which is essential to the child's symmetrical view of his world, a concentration which subordinated one or more of these groups to another would do violence to the child's culture. It became painfully evident, however, in the course of the discussion at Cleveland and subsequently, that the assumption of the Committee, as well as the main line of exposition in their Report, had been entirely missed by many of the ablest advocates of concentration in studies.

For these reasons I have gladly availed myself of the invitation of the President of the Department of Superintendence to present on this occasion in a new form the arguments made in that Report and some statement of the reasons for what is assumed without argument in that Report.

I Commencing with the outlook of the child upon the world of nature, it has been found that arithmetic or mathematical study furnishes the first scientific key to the existence of bodies and their various motions. Mathematics in its pure form as arithmetic, algebra, geometry, and the application of the analytical method, as well as mathematics applied to matter and force, or statics and dynamics, furnishes us the peculiar study that gives to us, whether as children or as men, the command of nature in this its quantitative aspect. Mathematics furnishes the instrument, the tool of thought which gives us power in this realm. But useful, nay, essential, as this mathematical or quantitative study is for this first aspect of nature, it is limited to it, and should not be applied to the next phase of nature, which is that of organic life. For we must not study in the growth of the plant simply the mechanical action of forces, but we must subordinate everything quantitative and mathematical to the principle of life, or movement according to internal purpose or design. The principle of life or biology is no substitute, on the other hand, for the mathematical or quantitative study. The forces, heat, light, electricity, magnetism, galvanism, gravitation, inorganic matter—all these things are best studied from the mathematical point of view. The superstitious savage, however, imposes upon the inorganic world the principle of biology. He sees the personal effort of spirits in winds and storms, in fire and flowing streams. He substitutes for mathematics the principle of life, and looks in the movement of inanimate things for an indwelling soul. This is the animistic standpoint of human culture—the substitution of the biologic method of looking at the world for the quantitative or mathematical view.

The bare mention of these differences will suffice for the purpose of proving the necessity of separating these two groups of studies and for giving each its independent place in the curriculum.

II The second group includes whatever is organic in nature—especially studies relating to the plant and the animal—the growth of material for food and clothing, and in a large measure for means of transportation and culture. This study of the organic phase of nature forms a great portion of the branch of study known as geography in the elementary school. Geography takes up also some of the topics that belong to the mathematical or quantitative view of nature, but it takes them up into a new combination with a view to show how they are related to organic life—to creating and supplying the needs of the plant, animal, and man. There is, it is true, a "concentration" in this respect, that the mathematical or quantitative appears in geography as subordinated to the principle of organic life. For the quantitative—namely, inorganic matter and the forces of the solar system—appear as presuppositions of life. Life uses this as material out of which to organize its structures. The plant builds itself a structure of vegetable cells, transmuting what is inorganic into vegetable tissue; so too the animal builds over organic and inorganic substances, drawing from the air and water and from inorganic salts and acids, and by use of heat, light, and electricity, converting vegetable tissue into animal tissue. The revelation of the life principle in plant and animal is not a mathematical one; it is not a mechanism moved by pressure from without, or by attraction from within; it is not a mere displacement or an aggregation, or anything of that sort. In so far as it is organic there is a formative principle which originates motion and modifies the inorganic materials and the mere dynamic forces of nature, giving them special form and direction so as to build up vegetable or animal structures.

Kant defined organism as something within which every part is both means and end to all the other parts; all the other parts function in building up or developing each part, and each part in its turn is a means for the complete growth of every other part. These two phases of nature, the inorganic and the organic, exhaust the entire field. Hence a quantitative study conducted in pure and applied mathematics and biology (or the study of life in its manifestations), covers nature.

It has been asked whether drawing does not belong to a separate group in the course of study, and whether manual training is not a study co-ordinate with history and grammar. There are a number of branches of study such as drawing, manual training, physical culture, and the like, which ought to be taught in every well-regulated school, but they will easily find a place within the five groups so far as their intellectual co-efficients are concerned. Drawing, for instance, may belong to art or æsthetics on one side, but practically it is partly physical training with a view to skill in the hand and eye, and partly mathematical with a view to the production of geometric form. As a physical training its rationale is to be found in physiology, and hence it belongs in this respect to the second phase of the study of nature. As relating to the production of form it belongs to geometry and trigonometry and arithmetic, or the first phase of nature, the inorganic. As relating to art or the æsthetic it belongs to the third group of studies, within which literature is the main discipline. But beside literature there are architecture, sculpture, painting, and music to be included in the æsthetic or art group of studies. Manual training, on the other hand, relates to the transformation of material such as wood or stone or other minerals into structures for human use, namely, for architecture and for machines. It is clear enough that the rationale of all this is to be found in mathematics, hence manual training does not furnish a new principle different from that found in the first or the second study relating to nature.

III The first study relating to human nature, as contrasted with mere organic and inorganic nature, is literature. Literature, as the fifth and highest of the fine arts, reveals human nature in its intrinsic form. It may be said in general that a literary work of art, a poem, whether lyric, dramatic, or epic, or a prose work of art, such as a novel or a drama, reveals human nature in its height and depth. It shows the growth of a feeling or sentiment first into a conviction and then into a deed: feelings, thoughts, and deeds are thus connected by a literary work of art in such a way as to explain a complete genesis of human action. Moreover, in a literary work of art there is a revelation of man as a member of social institutions. The nucleus of the literary work of art is usually an attack of the individual upon some one of the social institutions of which he is a member, namely, a collision with the state, with civil society, or with the Church. This collision furnishes an occasion for either a comic or tragic solution. The nature of the individual and of his evolution of feeling into thoughts and deeds is shown vividly upon the background of institutions and social life. The work of art, whether music, painting, sculpture, or architecture, belongs to the same group as literature, and it is obvious that the method in which the work of art should be studied is not the method adopted as applicable to inorganic nature or to organic nature. The physiology of a plant or an animal, and the habits and modes of growth and peculiarities of action on the part of plants and animals, are best comprehended by a different method of study from that which should be employed in studying the work of art. The work of art has a new principle, one that transcends life. It is the principle of responsible individuality and the principle of free subordination on the part of the individual to a social whole. It is in fact the exercise of original responsibility in opposition to a social whole, and the consequent retribution or other reaction, that makes the content of the work of art. Further discussion is not necessary to show how absurd would be a purely mathematical treatment, or a biological treatment, of a work of art. Mathematics and biology must enter into a consideration of works of art only in a very subordinate degree. It would be equally absurd to attempt to apply the method in which a work of art should be studied to the study of an organic form or to the study of inorganic matter and forces.

IV The next co-ordinate branch includes grammar and language, and studies allied to it, such as logic and psychology. In the elementary school we have only grammar. Grammar treats of the structure of language; there is a mechanical side to it in orthography, and a technical side to it in etymology and syntax. But one cannot call grammar in any peculiar sense a formal study any more than he can apply the same epithet to one of the natural sciences. Natural science deals with the laws of material bodies and forces. Laws are forms of acting or of being, and yet by far the most important content of natural science is stated in the laws which it has discovered. So in the studies that relate to man, the forms of human speech are very important. All grammatical studies require a twofold attitude of the mind, one toward the sign and one toward the signification; the shape of a letter or the form of a word or the peculiarity of a vocal utterance, these must be attended to, but they must be at once subordinated to the significance of the hidden thought which has become revealed by the sign or utterance. The complexity of grammatical study is seen at once from this point of view. It is a double act of the will focusing the attention upon two different phases at once, namely, upon the natural phase and the spiritual phase, and the fusion of the two in one. Looking at this attitude of the mind, at this method of grammatical study, we see at once how different it all is from the attitude of the mind in the study of a work of art. In grammar we should not look to an evolution of a feeling into a thought or a deed; that would be entirely out of place. But we must give attention to the literal and prosaic word written or spoken, and consider it as an expression of a thought. We must note the structure of the intellect as revealed in this form. The word is a part of speech, having some one of the many functions which the word can fulfill in expressing a thought. Deeper down than grammatical structure is the logical structure, and this is a more fundamental revelation of the action of pure mind. Logic is in fact a part of psychology. Opening from one door toward another, we pass on our way from orthography, etymology, and syntax to logic and to psychology. All the way we use the same method; we use the sign or manifestation as a means of discovering the thought and the scientific classification of the thought.

Much has been said in the Report of the Committee of Fifteen on the abuse of grammar in the study of literary works of art. The method of grammar leads to wonderful insight into the nature of reason itself; it is this insight which it gives us into our methods of thinking and of uttering our thoughts that furnishes the justification for grammar as one of the leading studies in the curriculum. Its use in teaching correct speaking and writing is always secondary to this higher use, which is to make conscious in man the structure of his thinking and expression. Important as it is, however, when it is substituted for the method of studying art it becomes an abuse. It is a poor way to study Shakspere, Milton, Chaucer, and the Bible to grammatically parse them or analyze them, or to devote the time to their philological peculiarities, the history of the development of their language, or such matters. The proper method of studying the work of art is not a substitute for that in grammar; it does not open the windows of the mind toward the logical, philological, or psychological structure of human thought and action.

V There is a fifth co-ordinate group of studies, namely, that of history. History looks to the formation of the state as the chief of human institutions. The development of states, the collisions of individuals with the state, the collisions of the states with one another, these form the topic of history. The method of historic study is different from that in grammatical study, and also from that in the study of literary and other works of art. Still more different is the method of history from those employed in the two groups of studies relating to nature, namely, the mathematical and biological methods. The history of literature and science has many examples of misapplications of method. For instance, Buckle in his *History of civilization* has endeavored to apply the biological method and to some extent that of physics, apparently thinking that the methods of natural science, which are so good in their application to organic and inorganic nature, are likewise good for application within the realm of human nature. The reader of Buckle will remember, for instance, that the superstitious character of the Spanish people is explained by him as due to the frequency of earthquakes in the peninsula. In selecting a physical cause for explaining a spiritual effect, Mr. Buckle passed over the most obvious explanation, which is this: The people of Spain were for many centuries on the marches or boundaries of Christian civilization and over against a Moslem civilization. Wherever there is a borderland between two conflicting civilizations, a difference either political or religious, there is a sharpening of the minds of the people so far as to produce the effect of opposition and bigotry. A continual effort to hold one's religious belief uncontaminated by the influence of a neighboring people leads to narrowness and to a superstitious adherence to forms. Narrowness and bigotry in religion are the foe of science and the friend to all manner of superstitions.

Mr. Buckle's work has interested people very much because it is an attempt to bring the methods of natural science into the study of human history. But it cannot be regarded as anything more than an example of the attempt to substitute for the true method in history a method good only in another province.

In biology the whole animal is not fully revealed in each of his members, although, as stated in Kant's definition, each part is alike the means and the end for all the others. The higher animals and plants show the greatest difference between parts and whole. But in history it is the opposite, the lower types exhibit the greatest difference between the social whole and the individual citizen. The progress in history is toward freedom of the individual and local self-government. In the highest organisms of the state, therefore, there is a greater similarity between the individual and the national whole to which he belongs. The individual takes a more active part in governing himself. The state becomes more and more an instrument of self-government in his hands. In the lowest states the gigantic personality of the social whole is all in all, and the individual personality is null except the supreme ruler and in the few associated with him.

The method of history keeps its gaze fixed upon the development of the social whole and the progress which it makes in realizing within its citizens the freedom of the whole. This method, it is evident enough, is different from those in literature and grammar, different also from the biological and the mathematical methods. In history we see how the little selves or individuals unite to form the big self or the nation. The analogies to this found in biology, namely, the combination of individual cells into the entire vegetable or animal organism, are all illusive so far as furnishing a clew to the process of human history.

The question might arise, where religion would be found in these co-ordinate branches. Religion would, I think, make a sixth co-ordinate branch if it were introduced into the school, for religion persistently looks at every thing and event, every feeling, thought, and deed, in its direct relation to the Divine Reason. This is evidently a method very deeply separated from the methods in any one of the five co-ordinate branches of studies that have been mentioned in this paper. It is so different, in fact, that it furnishes a ground for removing the study of religion from the school in which the other branches are studied. The method of religion is essentially the method of authority. That of the study of science is esentially one of critical alertness and personal verification. The scientific method of mind is the most hostile of all to the religious; it saps all authority as such. The mathematical is to be included under the scientific method; so, too, is the grammatical; but not so the literary and historic methods. Literature professedly deals in fiction, in ideal presentations, in artistic wholes which are not found in nature. History, on the other hand, deals with authorities for the events which it narrates. Its dealing with historic authorities resembles in some respects that followed in the study of the Holy Scriptures, but in other respects, namely, in the treatment of the evidences, it resembles the scientific study of data derived from the observation of nature. But religion demands from first to last a complete surrender of the mind to the authority of revelation. On the one hand it is claimed by those who believe in separating the school and the Church that religious instruction should be surrounded by the solemnities and ceremonials of the Church, and that it should not be approached in the self-assertive, skeptical attitude of one coming from the lesson in mathematics or natural science, or even literature, grammar, or history. On the other hand, those who claim for the school a sixth co-ordinate branch of study—namely, religion—think that this argument for the separation of methods so widely asunder as these of religion and science has been entirely overrated. But they too would carefully guard against the encroachment of the religious mode of study into mathematics, botany, history, and grammar.

They would admit that the co-ordination is complete and that the separation of methods is necessary.

We can now see what is the relation of this inquiry into educational values to the questions of child-study and other topics in psychology, as well as to the Herbartian principle of interest. First and foremost the teacher of the school has before him this question of the branches of learning to be selected. These must be discovered by looking at the grown man in civilization rather than at the child. The child has not yet developed his possibilities. The child first shows what he is truly and internally when he becomes a grown man. The child is the acorn. The acorn reveals what it is in the oak only after a thousand years. So man has revealed what he is, not in the cradle, but in the great world of human history and literature and science. He has written out his nature upon the blackboard of the universe. In order to know what there is in the human will we look into Plutarch's *Parallel lives.* To see what he has done in philosophy, we read Plato, Aristotle, Leibniz, and Hegel. For science we look to the Newtons and Darwins. We do not begin, therefore, with child-study in our school education. But next after finding these great branches of human learning we consider the child, and how to bring him from his possibility to his reality. Then it becomes essential to study the child and his manner of evolution. We must discover which of its interests are already on the true road toward human greatness. We must likewise discover which ones conflict with the highest aims, and especially what interests there are that, although seemingly in conflict with the highest ends of man, are yet really tributary to human greatness, leading up to it by winding routes. All these are matters of child-study, but they all presuppose the first knowledge, namely, the knowledge of the doings of mature humanity. There can be no step made in rational child-study without keeping in view constantly these questions of the five co-ordinate groups of study.

W. T. HARRIS

BUREAU OF EDUCATION,
WASHINGTON, D. C.

III

THE WORK OF THE HIGH SCHOOL[1]

The question, what can the high school do for the graduate of the elementary school? contains a variable factor, and therefore admits of a relative answer only; it depends on what this graduate is, and on what he knows. It depends on his age and maturity, his previous training, his acquired mode of mental work, his reading and other scholastic acquisitions, all of which are very definite factors in each individual case, but very indefinite if they are to be predicated of the graduate in general. His qualifications differ widely in the various cities of the country.

In one respect a definite answer to the query may be given: The high school can prepare the graduate of the elementary school for college. In its relation to the college, the high school is not a self-determining factor; it must rule its course by the demands made by the colleges. The requirements of some of the latter are such that it takes all the time of the high school to do the work prescribed and leaves little or no opportunity to add other studies. The requirements in languages, which deserve first consideration, have been growing. While a few colleges, such as Harvard, prescribe a test of power, as for instance the ability to read easy Latin at sight, in other cases the requirements are measured by the quantity of matter that has been read. In those high schools in which the classes preparing for college are required to take other studies in addition to those prescribed for admission to the college, the crowding of the programme may endanger thoroughness. The quantity of reading matter which has to be "finished" may be an obstacle to thoughtful reading. Lessons are made long, and less time and care are given to each part both in regard to preparation and recitation; the extent of lessons may militate against instructive study, and breadth of reading may be gained at the expense of depth.

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[1] A paper read before the Department of Superintendence of the National Edutional Association, at Jacksonville, Fla., February 20, 1896.

It is not pertinent to our subject to enter into a discussion of requirements for admission to college, and to raise the question whether a more limited amount of Latin and Greek reading, and a fuller knowledge of a smaller number of chapters and books in classic authors, are not the best test of qualifications for college work.

To awaken a desire to go to college, to induce and to encourage high-school pupils to look forward to, and prepare for a college course is a most important aim. It is in the interest of the pupil to attain the highest development of his power; it is in the public interest to perpetuate the intellectual treasures of the race by training its most talented children in the highest culture of the age. The practical difficulty which confronts the high school, and in fact, all preparatory schools, is the lack of uniformity in college requirements. In cities near which a leading college is located this difficulty is less great, because there is virtually but one college to which the pupil aspires to be admitted. In other parts of the country, the choice of college among members of the same preparatory class differs widely; some select Harvard, Yale, or Princeton, and some prefer other colleges. How to meet this problem by class instruction is difficult to see. Class instruction is necessarily identical; yet, here the problem arises now to prepare by class instruction for requirements which differ with the college which the individual pupil selects. One mode of meeting it would be to take in each study the highest demand made in the same by any prominent college and prepare the whole class for it. This solution, however, is not likely to meet with general favor, since the demand in each particular case is high enough, and the solution offered would be the combination of the highest demands to form the common programme. Another plan which seems more feasible is, to take the average amount of preparation required by the leading colleges and to arrange the programme of the last year of the high school in such a way as to set apart a recitation per day in which the pupils can receive individual instruction in the additional preparation which may be required for the college of their choice.

The teacher of this class should, of course, be a college graduate, and especially well qualified for this work. As far as the classes preparing for college are concerned, a very definite answer to our query may be returned: the high school should encourage its pupils to aspire to a college education, and should prepare them for any college that they wish to enter. Every other consideration should be subordinated to this aim, as far as the college classes are concerned.

In many high schools the number desiring to enter college is a very small fraction of the total number of the pupils. Most of them look upon the high school as the last step in their education. The course of study of the college class cannot altogether apply to the high school at large, because the latter is serving not a single, but a composite purpose; it has at least a twofold character. It is not only a preparatory, but also a finishing school. It does not look for its aim in one direction, but has various objects in view; the college, life, and, last but not least, the subjective interests of the pupil himself.

While elementary education has the pre-eminently psychological aim of developing the mental powers, higher education, as represented by the university, has for its aim the transmission of the highest culture of our civilization and of the most permanent spiritual conquests of mankind to minds sufficiently mature to grasp them in their fullness. The university is the eternal lamp on the altar of civilization in which the fire of human culture, brought from heaven by genius, is kept alive.

The aim of the European university is easily defined; it is absolutely specialized and is emphatically a professional school. Theology, law, medicine, and philosophy (including philology, science, mathematics, and technology), each pointing to a special vocation, form its divisions or faculties. It is less easy to define the American college, because it contains less specialization and more of the general educational features.

The high school, in its character as a finishing school, has been called the People's University, because its aim is to introduce the pupils to the spiritual treasures of the race. It is the people's university in regard to the fact also that its instruction is largely elementary and popular. The mode of teaching the high-school pupil must differ essentially from the college method, because he lacks the preparatory training which the college presupposes. The high school is a continuation of the elementary school; hence its work, while of a higher range, must often be elementary in presentation and drill. In the college the course may be elective; in the high school it should be largely prescribed.

The aims of high-school education might thus be defined:

1. The high school should communicate to its pupils the elements of the highest culture—achievements of the race.

2. It should bring the pupil into close contact with the spiritual life of his country and his time.

3. It should awaken and widen the civic and higher human interests in the pupil, and arouse and stimulate the desire for an active life in their service.

To say that education should make the pupil more human and more divine, would be a briefer statement of these aims. To make him more human, means to make him understand more fully the common interests of life, the laws of nature whose service sustains the industries and the arts of communication and transportation characteristic of our age; it means to perfect him in the arts of expression by which the intercourse among human beings is carried on; it means to teach him to comprehend through historical and philosophic studies the institutional life of man, on which all civilization rests.

To make the pupil more divine, means to teach him to discover in the ethical law of his own soul the never silent voice of the Deity, commanding him, in ever new revelation, to make his ethical self assume external reality in deeds. Not only in his own soul, but also in the external world, in whatever is good or beautiful, the divine voice speaks to man; to enlist the youth in the service of these, means to make his soul more divine.

In framing the course of study of a high school three standpoints seem possible: We may consider chiefly the demands of life, or greatest weight may be given to proficiency in leading studies, or highest emphasis may be laid on the growth and development of the learner and on his highest interests. For the sake of brevity, let us call these the realistic, the scholastic, and the ideal standpoints. It goes without saying that neither of these has ever been urged to the exclusion of the rest, but more stress has been laid occasionally on one than on the others. From the emphasized realistic standpoint there has resulted the introduction of studies that were supposed to prepare especially for life. A purely realistic principle in the sense of preparing for a special calling cannot well be applied to the high school, because it would require a specializing of instruction which a school for general education could not undertake. A high school organized on this principle would be a trade school or a business college.

In fact, the best preparation for life is that which develops the strongest individuality, honesty, and truth, attentive intelligence, quick-witted, thoughtful industry, and persevering power of application. There is no better preparation for life than found in these postulates of the ideal standpoint.

The scholastic standpoint would determine the programme of the high school by setting forth the needs of each individual study from the standpoint of the special teacher, and letting the totality of such demands constitute the programme. Imagine the procedure in attempting to frame a course of study on such a basis; the teacher of each specialty—of Latin, Greek, mathematics, natural science, etc.—might be asked to formulate his views as to what the course of study in his special department should be. The almost necessary consequence of this mode of inquiry could be forestalled, since the conditions are clear. It would probably lead to an admirable and exhaustive statement of the educational needs and conditions of every study, that might be of great permanent value and map out lines of teaching that could safely be followed. Excellent monographs on the high-school course might be thus produced and a unique corner stone for high-school programmes might be laid.

But, on the other hand, the danger of certain defects in a plan designed from an exclusively scholastic standpoint is evident. The sphere of life in which any human being moves and his circle of interest seem, of necessity, to him, of exalted and primary importance. Every teacher inclines to think most highly of the specialty in which he works, or he would not have selected it, or, having embarked in it, could not have become eminent. The specialist is likely to be keenly conscious of the immense field of his science and of its relative importance compared with other branches. The imperfections of the learner also, whom he is instructing, appear to him more glaring in the unconscious contrast with his own abundant information and proficiency. He will almost inevitably be driven to the conclusion that the pupil should have better preparation before he begins his work in the high school, and that a larger share of time should be given to it after he has commenced the study. Unity of work is all the more necessary because, while in the elementary school the pupil is all day long in the same room and under the instruction of the same teacher, he passes in the high school from room to room and is taught by a number of persons, whereby that personal unity of work ceases which is implied in the instruction by one teacher. It is all the more necessary that a unifying principle should underlie the course of study.

Even after the work in each branch of instruction has been mapped out by special teachers, the series of plans so obtained will not yet form a course of study. It will require the hand of an educator to give unity to these various demands by adjusting and combining them in accordance with psychological and ideal principles.

The psychological demand remains pre-eminent. A course of study must be formed not merely by considering the requirements of the various sciences, but by the laws and needs of the growing soul of youth.

The distinction between formal and material culture is an important one, because it recognizes that instruction in any science must serve a double end. It must, in the first place, supply information to the mind and add to the treasures of positive information; it must, on the other hand, through the mode of presentation, as well as through its content, give strength to the mind. Culture that is simply formal, which strengthens the mind without enriching it; or culture that is merely material, which fills the mind without giving to it strength, would be pernicious, if such a thing really existed. Formal and material culture are like the nitrogen and oxygen of the air; pernicious or hurtful when separated from their natural union, but life-giving when properly combined. In high-school education the dynamic forces in each study, the elements which give power, should be emphasized rather than the mere scholastic attainment. Any branch thus taught gives proper preparation for life, because it at once enriches and invigorates the soul and enhances individual worth.

The idea of educating the child must be the dominant principle in regard to which the aim of proficiency in any study stands in the relation of means to an end. High-school education differs from that of the elementary school and from that of the college, yet partakes of either; it is the connecting link between the two radically different educational principles which the extremes of school education, the primary school and the university, contain. All education leads the mind to seize the world and hold it in spiritual grasp. The principle of the elementary school is that the world adjusts itself to the child in order that, after a while, the youth may learn to adjust himself to the world. In presenting information we select, we arrange, we grade; we use all contrivances and devices which ingenuity may indicate to help the child seize the elements of knowledge with his yet feeble grasp. As the household adjusts itself, in a measure, to the imperious baby, so serious science and the rigid world of knowledge must be modified and altered and rearranged to be suitable to the childish taste and power of assimilation. At the other end of the school career stands the university; where the demand is made that the student forego all his personal inclinations, his love of ease, and compel his mental power to grasp the deepest thought, the most difficult system of science in its independence, unadjusted to the feeble strength of the seeker after truth. While, at the beginning of man's education, art predominates over matter—the art of teaching over the material of instruction (of which little can be given at a time, with much art in presenting it)—there is, at the end, in university teaching, much matter and less artifice in presentation. Midway between these two extremes stands the high school, in which a method must prevail which, while still considering the learner's difficulties, and therefore using the art of pedagogics in presenting subjects, lays more and more emphasis on the *matter* of instruction and less on pedagogical devices.

The high school continues, in the first place, the work of the elementary school; and, in the second, it supplements it by an entirely new range of work. The view of the world in space, which the pupil has derived from his geography lessons, is continued, in a measure, in the instruction in natural science, and is supplemented by the view of the world in time which history furnishes; and also by a glimpse at the spiritual world of institutions which ethics and philosophy present. On the other hand, the various elements of spatial relation, which underlie arithmetic, are supplemented by the higher mathematical instruction in algebra and geometry.

In the process of learning there is a double activity. Instruction makes the external world ideal, since every step in becoming acquainted with the material things in the world means that, through the process of learning, facts become ideas. Learning, however, requires not only the process of receiving information, but also that other activity which starts with an idea and gives to it external expression through language, the exercise of skill, or through work of any kind. Thus we find a second element in the process of learning, by which the ideal within becomes a reality without. When the mind is receiving information, the external is made internal; while writing, or drawing, or speaking, or any kind of intelligent action, makes an idea actual and external. The proper play of these two sides constitutes the fullness of the educational process. Assimilation and activity, or receptivity and spontaneity, are the two poles around which the world of the school must revolve. Where one factor predominates over the other too much, readjustment is needed. In a passing way it may be said that, by spontaneity or activity on the part of the child, we do not mean that reprehensible attitude of the pupil in receiving knowledge which makes him a critic in the sense of inducing and encouraging him to look for error and fault in the work of others. This attitude may be encouraged too early and too much, at the expense of thoughtful and sympathetic appreciation. The critical faculty need not be kept dormant; it will find sufficient exercise in grasping the leading thought in the lessons, and in sifting critically whatever is important and chiefly significant. A noble thought in this direction occurs in the Report of the Committee of Ten, where the suggestion occurs that the first instruction in natural science should dwell on the idea of preservation and protection in nature, instead of beginning with destructive analysis.

Feeling is connected with spontaneity and receptivity, the typical activities of will and intelligence, and forms their more or less distinct echo. These three phases of the soul, intelligence, volition, and feeling, remain the threefold aim of training which culminates in the cultivation of thought, energy, and refinement.

Training of the will is, of course, implied in every kind of conscious activity. Whenever a task is imposed, or a lesson studied, and the pupil must fix his attention on it, will-training is involved. Character becomes fixed by life, and similarly will is formed and influenced by the life in the schoolroom, which should be made to resemble closely the life-relations which surround the pupil. The tone of the high school differs necessarily from that of the elementary school, because the life-relations of the youth of fifteen differ greatly from those of the child of six or seven. He approaches intellectual maturity and self-dependent manhood and womanhood; he takes part in the life of the household on the basis of relative equality with adults. Hence the high school should reflect in its discipline, and in the tone of intercourse between teacher and pupil, the change in the age and standing of the child; the teacher should be rather a leader than a ruler.

Another important element in the will-training of the high school is the introduction which it can give the pupil to an understanding of the ethical world, in society and state. Instruction in civics has been added within the last decade to the course of study of many high schools. Instruction in ethics and the elements of mental philosophy would seem at least as necessary, because the principles which underlie human action are worthy of the pupil's study and should be comprehended by him as unalterable and fixed laws, reasonable and beneficent, to which the individual owes not only obedience, but active service.

Ethics as well as civics should be taught, because the pupil will not only be a citizen, but, more emphatically, a human being, and should be led to think about his duties and not merely know them through the routine of life.

Among the studies which are most closely allied to the will, and which subserve the idea of making the spiritual within real without, the arts of expression should stand in a central place, extending from one end of the course to the other. There is a now obsolete definition of the difference between elementary and higher education which says that elementary education is to teach the child to absorb knowledge, while higher education is to instruct him how to communicate it. The distinction is hardly valid to-day, but there is no doubt that we expect as a result of higher education improvement in expression, clearer, richer, more forcible speech; writing, more logical in thought and more correct and beautiful in form. It seems an error to discontinue altogether the practice of penmanship after a pupil has entered the high school. A good handwriting, that does not offend ordinary æsthetic taste, is one of the characteristics of culture, and should therefore not be neglected in high-school education. As a mode of expression, drawing, too, should retain its place as an obligatory study. There is a peculiar connection between studies that cultivate the art of expression and the life of the soul within. The physiological and mechanical element involved in these studies seems to open nerve-channels from the brain to the external world, by which the soul finds a readier way to manifest itself and grow in strength and activity. The study of expression is of higher than merely formal value; it reacts on all the forms of receptivity, and knowledge becomes assimilated more easily and more thoroughly, when there is a corresponding activity in which it is put to use. Drawing necessitates keener observation; expression through language requires clearer ideas; thus spontaneity helps receptivity, and activity helps assimilation.

There is no subject of greater importance in the high-school course than that of language. I speak of it here simply as a mode of expression, which, however, is but one side. As a mode of expression the English language, in all its forms—in composition, recitation, declamation, oratorical contests, and extemporaneous speaking—is a study which should ever be placed first. High-school education which does not aim primarily at the cultivation of refined and correct English is faulty.

As a further study in the direction of volitional training, gymnastics and calisthenics should not be denied a place. The control of the will over the body which is the aim of these studies, with the many things that depend thereon as consequences, is indispensable in the high-school programme. Turning now to the side of receptivity, or to the studies in which the pupil is to assimilate, physiology perhaps should be placed earliest in the course. It is connected, evidently, on one side with gymnastics and calisthenics. Its importance for the pupil renders it desirable that all, even those that leave the school after the first year, should partake of this instruction. It is a natural science subject and should follow natural science methods by being objective, or illustrative and observational in teaching. The anatomical element in psychology should be limited; and those subjects most necessary for self-preservation (especially hygiene), should occupy the first place. The principal topics should be: How to take care of the body in health and disease, together with some information concerning the treatment of ordinary accidents, and perhaps some ideas in connection with nursing the sick. Life interests should predominate over scholastic interests. It should be one of the characteristics of a pupil who has had a higher education, that he has better resources in the contingencies of human life. Algebra and plane geometry form the indispensable continuation of the arithmetical instruction in the elementary school. The psychological importance of algebra lies in the pure mathematical reasoning which it requires; while objective teaching is needed at the outset—when the matter is new to the child—the emphasis must be laid on that part which gives the peculiar and necessary training for which the study has a place in the high-school curriculum, namely, strict and clear reasoning; self-activity may, and should be engendered, by encouraging independent and original solutions on the part of the advanced pupil. Lessons in elementary bookkeeping may perhaps be placed in the earlier year of the course.

Of the natural sciences, botany, physics, and chemistry, together with physiology or biology, seem sufficient for the four years of the high-school course.

On the side of the humanities, general history should occupy a prominent place; but I would add to it lessons in United States history, of much less elementary character than the corresponding study in the elementary school. In the political life of our own day, economic questions stand in the foreground. While the elements of history taught in the lower schools give a child a good idea of the growth and development of our political institutions, a maturity of mind is required for the comprehension of the economic and civic topics which the pupil in the elementary school does not possess, and which is too important to be omitted altogether. A one-volume history of the United States, somewhat in the style of Green's *History of the English people*, with more stress laid on the last fifty years than the earlier history, would be a valuable addition to literature and should be utilized in high-school work. The necessity for the study of political economy in succinct form becomes apparent from these considerations.

Besides ethics, the elements of mental philosophy should have a place in the higher grades of the high school; both on account of the peculiar training which this study gives, and also because it produces a deeper insight into those profound problems which have always formed the center of human thought. If an enlightened view of the world is to be one of the results, this study may be granted a place, to advantage, in the university of the people. Connected therewith should be the lessons in ethics; including rules of conduct. Ethics will not make a human being moral, but it will deepen moral convictions by showing the nature of ethical obligation and making ethical relations and principles clear and definite.

Another study in which the high school should continue the work of the grammar school, and also supplement it, is that of art. If higher interests are to be inculcated, they will natually group themselves around the ideas of the true, the good, and the beautiful. The art-feeling is developed in the form of music in the elementary school; in the high school musical instruction should be continued and raised to a higher level, by bringing to the notice of the pupil the noblest works of genius, as far as they can be brought into the schoolroom. Singing should be a general exercise, not simply for the purpose of art education, but also for the moral cohesion which joint singing lessons give to a large school, and for the influence which it has on the cultivation of the sentiments. There is another side of art which the high school cannot well neglect: representative art. If drawing lessons form part of the curriculum, they should be connected with the history of ornament and historical design. In addition to these features, the study of the history of art, grouped around representative paintings, or works of architecture and sculpture, should be embodied in the course. The influence of art on national life appears on every page of history. The art-instincts among our people, now finding expression in their love of good music, should receive cultivation in higher instruction. In one form at least, art is studied in every high school in the country—in the form of literature, of which the artistic side, the sense of the beautiful, deserves additional emphasis.

Language, the most important topic of higher education, should not be forgotten in this connection. It was discussed in another place as a mode of expression; it should here be spoken of as a subject of information. The universal element in language, grammar, and the laws of classification forms the proper study of the elementary schools. In the high school the study of grammar should be extended in two directions. It should rise to the study of style and rhetoric in one direction, and it should also trace briefly the historical development of the language, through a brief course of historical grammar, such as is found in Morris's little volume. Besides the study of law in language which grammar, rhetoric, and history impart, there is, furthermore, the study of language in literature. In the study of literature great progress has been made in the last ten or twelve years, by bringing the children of high-school age, and even below it, into direct contact with the great authors of the English tongue.

The additional suggestion might be submitted in connection therewith, that in the selection of authors a historical principle should be observed; that is to say, that when the four years of high-school reading are summed up together, they should contain the typical authors of the various periods of English literature; laying stress on more recent periods and reserving a few authors of older times, Chaucer and Spenser, for the senior year, after historical grammar has been studied to some extent.

A further suggestion is not an innovation, but a revival of an older custom, which unfortunately is dying out. English literature, like the Greek, has the good fortune of having one grandest representative. Just as with the Greek boy the study of Homer was an education in itself, so for the English or American high-school boy or girl, the study of Shakspere contains the elements of the grandest literary education. While Shakspere is read incidentally with other authors, in every high school in the land, it seems as if he should be made the special object of study for a longer period; say, for a whole year, with two or three lessons per week, in the senior class. He is, in truth, all mankind's epitome, and should not be treated on a level with other authors, but singled out as an object of special attention. A last demand, and we may leave the subject of language. History of literature has been rejected as a substitute for literature itself, and the study of authors has taken its place. As a substitute for literature the study of the history of literature is objectionable, but it has nevertheless a place in the high school. After a fair knowledge of literature has been acquired through the reading of authors, it is proper that the development of literature, its law of progress, should become the object of special attention; and a brief history of literature seems a fitting close to the study of authors.

While English stands in the foreground of linguistic training, at least one foreign language should be required of every high-school pupil. To be conversant with one tongue means to be inclosed within the more or less close walls of one civilization, without being able to look upon the human world beyond by direct inspection. The study of another tongue leads to a better acquaintance with one's own, by offering a new exercise to the faculties of the learner. In studying the grammar of the vernacular, the process is analytic. From the language the grammatical rule or law is inferred by analysis. In the study of the foreign tongue the process is reversed, inasmuch as the grammatical rule or law is placed before the pupil and he is taught to construct sentences in the foreign tongue; the process here is synthetic.

On the side of "material" training, the gain is evident and constant. It has been said that an additional language means an additional soul. To the student who masters any foreign tongue, a new world opens. His vocabulary becomes more copious and choice; he attains a clearness and precision in the use of English that could not otherwise be attained. Every Latin, French, or German word which he looks up in his dictionary has several English equivalents, and the choice which he is compelled to make requires a distinction between synonymous terms and kindred ideas, and makes him conscious of the finer shades of differences in their meaning.

In regard to the choice of the one language to be studied, Latin should be placed first, German second, and French third. The chief, though not the only reason for assigning the first place to Latin, is found in the formal training which it may be made to impart. Like the German, it is highly inflectional, and requires the most energetic exercise of attention and thought.

Latin contains, moreover, the key to that part of the English vocabulary which the child finds most difficult to understand, and which most frequently occurs in higher literature.

The question how to distribute the studies over the four years of the course deserves consideration. There is one fact on which special stress should be laid. The four years of the high school usually cover the last steps in the transition from childhood to manhood, with the almost sudden mental changes which this implies. This enables the high school to place at the end of its course those studies which require mature power, and which appeal to the adult's interests rather than the child's. The principles which determine the arrangement of studies may be briefly summed up as those of importance, of inter-dependence, and of difficulty or interest. To illustrate: Physiology should be placed in the first year on account of its universal importance for the conduct of life. Algebra is placed in the first year, and physics in the second, because the latter presupposes algebra and uses its processes.

The history of English literature is placed in the senior year, because the basis of its generalizations must be supplied by the reading of authors in the earlier years; moreover, the tracing of relations between literary and political phenomena is a fit task for the maturer mind.

Besides the distribution of the studies over the four years, a further problem needs consideration, namely, What part of the whole subject-matter should be presented and taught to the pupils?

In the inductive and political sciences, in particular, the field of knowledge is practically endless in every direction, and a law of limitation becomes a necessity. The consciousness of the magnitude and high requirements of the science which the scholarly teacher entertains, if it is not curbed and balanced by his pedagogical tact, may lead to the crowding of programmes with subject-matter, and an impatient haste in teaching that is fatal to educational progress. The whole field of science cannot be covered, and some principle of selection must be found.

One solution would be to single out a few leading topics, *e. g.*, twenty or thirty typical experiments in physics or chemistry; or, to illustrate in another direction, ten or twelve authors in English literature, and to teach these very limited selections with scholarly thoroughness, rendering the limited ground that is covered by instruction the type of the whole realm of knowledge beyond, and making the method used a key by which the pupil may unlock the other chambers in the house of science. If the whole realm of knowledge cannot be conquered, a part at least may be so taught that the known is the type of, and becomes the key to, the unknown which lies beyond it. Laboratory work in physics, chemistry, biology, and botany is being done in many high schools in the country. In history, too, a method of investigation, by the reading of authorities in connection with each topic, has been recommended, and is, to some extent, practiced. The laboratory method in natural science is vastly superior to the now obsolete exclusive text-book method, which was used in some places a generation ago.

The study of natural science loses its value as a means of cultivating the faculties, when the method employed fails to lead to the observation of, and experimenting with, the objects of nature. The tools which Providence has given to man for his life in nature are his senses and his hands. Instruction in science becomes unprofitable when it is not based on the pupil's own observation and activity.

Yet, while progressive high-school teachers agree on laboratory work in natural science, another element should receive equal consideration. Just as necessary as an acquaintance with the archetypal forms of nature by direct inspection, and of the observational facts by direct experiment, is the unifying, reasoning process, which sits enthroned above the myriads of facts and is as important a condition of observation as the activity of the senses and the hands. Reason, with its generalizing powers, is the compass which alone prevents the student from becoming bewildered in the maze of details.

Not only the typical facts, but the leading lines of the whole field of the study should be surveyed by the pupil. These leading lines, however, cannot always be taught by experiments performed by the pupil himself, but he must receive some truths at second hand through experiments which he witnesses but does not perform, and by literary communication through text-book and lecture. The total elimination of text-book study by laboratory work would be an extreme that does not commend itself. The individual scientist who does not know a hundredfold more of nature than he has learned from his own personal experimenting would be comparatively ignorant. Thoroughness in a limited field is not at all opposed to a certain comprehensiveness of information. It is in fact aided by a general acquaintance with the leading lines of the subject. What reader of Gibbon's *Rome*, when opening a new volume, would not feel aided by a preliminary comprehensive survey of the period in an encyclopedia or brief text-book?

The old method of the literary study of natural science, which sacrificed thoroughness to comprehensiveness, and depth to breadth, was vicious; but the opposite course would be as great an error. Generally speaking, thoroughness may become, and at times has become, a fetich to which hecatombs of vital educational interest have been slaughtered. For instance, to keep a child in the elementary school on one topic for the purpose of attaining ideal perfection until living interest and ambition are killed, and instruction becomes irksome, would be paying too high a price for thoroughness.

These considerations will help to formulate the principle of presentation in high-school work. There should be, in the first place, the thorough study of detail in connection with some typical subjects, limited in number. There should be, in the second place, the study of leading lines and the comprehensive survey of important principles and laws.

This principle is of almost universal application. In the sciences it would mean the proper combination of laboratory and text-book work, with perhaps a preponderance of the latter. In literature it would mean a preliminary study of authors, followed by the history of literature. In history it would imply a survey of general history, followed, not preceded, by what has been called the "intensive" study of some period. The proper selection for the latter purpose would be the history of the United States in its political and economic features, since the adoption of the Constitution.

The tone of the high school in lessons and conduct should be manly. The instruction and discipline which it imparts should be worth a man's time to give or take, and worthy of adult intelligence and effort. The high-school years, as we have seen, are the period of rapid transition from childhood to manhood and womanhood.

In handing the treasures of learning to the little child of the elementary school, the teacher has to stoop so that the child may be able to reach his gifts. In teaching mature youths, the teacher must stand erect and cause the youth to lift himself toward the gift held out to him from the height of manhood. Thus only will he learn to grow. The lower classes of the high school still represent childhood, the older classes the youthful adult. The method of teaching should correspond to these conditions of nature, and rise from elementary and early beginnings to scholarly interest and effort. A manly tone should permeate the whole school. The duties of citizenship should be distinctly foreshadowed by the spirit of the discipline. While the teacher's will was largely the rule of the elementary school, the governing powers of the high school should be obedience to the reasonable law of the school, based on the exigencies of the work to be carried on, and a proper respect for the rights of others. The impersonal element of law gradually supersedes personal authority. In instruction, too, the tone should be manly. The high-school pupil shows in his social life instinctively where he belongs. He gravitates naturally toward the adult. The boy or girl seeks more freely the society of those older than himself. His relation to his parents changes from submission to companionship, and begins to assume a little of a sisterly or brotherly aspect. The circle of his interests coincides more and more with that of the adult. His home life has changed, and he is charged in not a few cases with the duties and responsibilities of a grown person. School had better recognize these facts of life and turn its steps in the same direction. It must take cognizance of this evolution, and cease to supply food for babes when nature calls for the spiritual nourishment of the adult.

The age of the high-school pupils, advanced as our statistics show it to be, suggests their treatment. They will be as old when they finish the course as the college graduate was a few generations ago. A glance at the biography of any of the eminent Americans of the earlier part of the century shows this fact. Motley and Bancroft graduated from Harvard at the age of 17; Longfellow, Emerson, and Whitney the philologist, graduated from Bowdoin, Harvard, and Williams colleges at 18; Daniel Webster and Charles Sumner at Dartmouth and Harvard, at the age of 19.

Those text-books should be preferred that command the respect of the mature mind. Green's *History of the English people*, and Shakspere, may be mentioned as typical illustrations. Whatever of current literature and thought moves the interests of the cultured world should find a ready place in everyday work. The high school should not only prepare for life; it should be a piece of the life of culture such as the best American men and women lead or desire to lead.

High-school education, if the unjust charge were true that it kept youth away from the interests of life and made him insensible to its pulsations, because it locks him up in the world of the past and of scholastic and unreal abstraction, would indeed tend to unfit for life and be a failure.

The opposite course is the one which the high school should pursue with the graduate of the elementary school: It should aim at bringing him into the closest touch with the highest interests of current spiritual life, and to fill him with a strong desire for wholesome activity in the world of reality.

The course of study should be sufficiently elastic to enable the teacher of each subject to regularly direct attention to whatever information of higher interest the day may bring, or to read solid articles on vital questions in magazines like the *Arena* or *Forum*. The lessons in English should allow a good margin of time for magazine and library reading.

During the years that a pupil is in the high school, the words of Terence should apply to him: He is a man, and nothing that relates to man should be without interest to him.

F. LOUIS SOLDAN

SUPERINTENDENT OF SCHOOLS,
ST. LOUIS, MO.

IV

THE SPIRIT AND IDEALS OF THE UNIVERSITY OF MICHIGAN, (I)

The University of Michigan is an outgrowth of the policy inaugurated more or less consciously by the old Congress when it inserted in the "Powers to the Board of Treasury," voted July 23, 1787, the clause: "Not more than two complete townships [of land] to be given perpetually for the purposes of an university, to be laid off by the purchaser or purchasers as near the center as may be, so that the same shall be of good land, to be applied to the intended object by the Legislature of the State." Of the universities founded in pursuance of this policy, none has attained a higher rank or exerted a wider influence. Moreover, in working out the university problem, Michigan received no aid from the other States whose universities are older, but was obliged to pioneer the way both for herself and for others.[1] A State university, a pioneer State university, and the most widely influential of all the State universities—her spirit and ideals are matters of more than local and temporary interest. However, this spirit and these ideals cannnot be successfully delineated separate and apart from the history of the university and of the State system of public instruction. This history falls into three divisions: from 1817 to 1837; from 1837 to 1852; and from 1852 to the present time.

The charter granted by the governor and judges of the Territory in 1817 ordained that "The Catholepistemiad or University of Michigania" should consist of thirteen "didaxiim" or professorships, viz.: universal science, literature, mathematics, natural history, natural philosophy, astronomy, chemistry, and the medical, economical, ethical, military, historical, and intellectual sciences. The thirteen "didaxiim" were divided into sixty-three sciences, many of them bearing names never seen in a dictionary. The "didactorim," or professorial body, appointed and commissioned by the governor, and clothed with corporate powers, was put in charge of all grades of instruction in the Territory. It should have power to establish colleges, academies, schools, libraries, museums, atheneums, botanic gardens, laboratories, and other useful literary and scientific institutions, and to provide for and appoint directors, visitors, curators, librarians, instructors, and instructrixes, in, among, and throughout, the various counties, cities, towns, townships, or other geographical divisions of Michigan. Instruction should be gratuitous to all students who were unable to pay the small honorarium that was fixed for lectures. Salaries should be paid from the Territorial treasury, and taxes were imposed to meet the expenses. Thus "The Catholepistemiad or University of Michigania" was the name given to the whole contemplated organization of public instruction in the Territory; and no little acumen is shown in the suggestion that the scheme was suggested to Judge Woodward, who drew the charter, by the University of France, which had been founded in 1806. The original significance of the university it is important not to lose sight of. The breadth of the plan was quite equal to its pedantry. As the population of Michigan at the time was not more than five or six thousand, "The Catholepistemiad" was a large draft upon the future; but, large as it was, the bill has been in good part honored, as we shall see.

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[1] Instruction was first given in the Ohio University in 1809, and in the Indiana University in 1823; the faculty of the first was organized in 1822, and of the second in 1829; but neither institution exerted an appreciable influence upon the organization of later ones. On the other hand, both of these universities, and especially the second one, have more or less followed the lead of their younger and more powerful competitor.

Little was done under this charter, and four years later it was repealed. The charter of 1821 established the University of Michigan in Detroit, placing it in the hands of a board of Regents to be appointed by the governor, and declared its objects to be to provide the inhabitants of the State with the means of acquiring a thorough knowledge of the various branches of literature, science, and the arts. The Regents should, from time to time, establish such colleges, academies, and schools, depending upon the university, as they might think proper and the funds of the corporation might justify. The taxes for education were not renewed, and the university was left wholly dependent upon its landed and other estates. Persons of every religious denomination were made eligible to the Regency; nor should "any person, as president, professor, instructor, or pupil, be refused admittance for his conscientious persuasion in matters of religion, provided he demean himself in the proper manner and conform to such rules as may be established." While this charter cut away the pedantic features of the earlier one, it still perpetuated the idea that the University of Michigan was the name of the educational organization of the Territory.

The charter of 1821, like that of 1817, had little more than an ideal existence. It does not come in my way to speak of the educational work that was done under it. The Supreme Court, however, has decided that the corporate life of the University of Michigan is continuous from 1821 and 1817; and high authority has said that the grand conceptions of those early years "made easy the acceptance of the large plans of educational organization which were adopted" at the admission of the State to the Union. "In both those charters," says President Angell, "what we may call the Michigan idea of a system of education, beginning with the university and stretching down through all the lower grades to the primary school, was distinctly set forth."[2]

The decade 1835–45 was a most fruitful one in the history of American education. It has been appositely called "our educational Renaissance." In that decade the first State board of education was created; the State superintendency first became efficient, if indeed it did not first appear; the first local superintendents were appointed; the first teachers' institute was held; the first normal school was founded; the first school libraries were established; and, perhaps most significant of all, vital connection was first effected with the schools of Germany. Professor Bache and Professor Stowe in this period made their well-known reports, the first to the trustees of Girard College, and the second to the legislature of Ohio. American students in small numbers had been resorting to German universities since 1815; but now the German educational spirit and ideals began to make themselves really felt. In 1831 M. Victor Cousin made to the French Minister of Public Instruction his celebrated report on the state of public instruction in Prussia. Sir William Hamilton published his *Edinburgh Review* article on this report in 1833; the next year Mrs. Austin's translation appeared in London, and the year following it was republished in New York. But, what is most to our purpose, in 1835 Cousin's report furnished the norm of the school system of Michigan. From that time it has been the boast of the State that her system of public instruction is based on "the Prussian ideas," the ideas, viz.: that the State should create, support, and supervise a system of free public instruction, comprehending the three grades, elementary schools, secondary schools, and the university. The Constitution of the State, framed in 1835, incorporated these ideas in outline. The State superintendency that it provided for is said to have been the first in the country.

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[2] Oration delivered at the Semi-Centennial celebration of the organization of the University of Michigan, 1887.

Within two months of the admission of the State to the Union, laws were enacted organizing the State educational system. The university was intrusted to a board of twelve Regents and a chancellor, appointed by the governor and the senate, and clothed with the appropriate powers. The university should consist of three departments: literature, science, and the arts; law; medicine. The professorships were provided for, and the Regents forbidden to create new ones without legislative sanction. The fee of admission to the university never should exceed ten dollars; and the university should be open to all students in the State who might wish to avail themselves of its advantages without charge for tuition, under the regulations prescribed by the Regents, and to all others under such restrictions and regulations as said Regents should prescribe. The most novel feature of the law was due to "Catholepistemiad" influence. It was made the duty of the Regents, in connection with the State superintendent of public instruction, to establish "branches of the university" in different parts of the State, with the proviso that such branches should not confer degrees. Connected with every such branch there should be an institution for the education of females in the higher branches of knowledge; also a department of agriculture, and a department especially appropriated to the education of teachers for the primary schools. At first the branches were expressly authorized by the legislature, but soon this function was absorbed by the Regents. Several branches were established in the principal towns of the State; but eventually the question of their constitutionality was raised, and they were discontinued after a few years. While it is perfectly obvious that the branches, had they been continued, would ultimately have destroyed the university, or have kept it small and weak, owing to the dispersion of funds, it is by no means clear that in their time they did not actually contribute to its ultimate success. They were called "the all-important connecting link between the primary schools and the university." For the time they were the realization of one of the Prussian ideas, and they stimulated the development of the system of high schools in which Michigan takes so much pride. But the branches were by no means the only narrow escape that the university made.

The doors of the department of literature, science, and the arts opened in 1841, and for a time this department was the university. It was carried on much like the Eastern colleges of that day. However, either the German example or some other cause effected one departure from the American model that did not prove to be for the better. There was no president, and the executive duties were performed by four professors in succession, a year at a time. The rule was to distribute the professorships among the religious denominations of the State. The students in attendance never reached one hundred, and after the lopping off of the branches they tended to decrease. In 1850 the medical school was opened. All in all, the inquirer searches the history of this period in vain for any large promise of future growth, influence, and usefulness.

The State Constitution of 1851 gave the university a new legal status, and eventually a new educational status. Henceforth the Regents should be elected by the people in the judicial circuits of the State.[3] The general supervision of the university and the direction and control of all expenditures from the university interest fund were placed in the hands of the Regents. The rectorial plan had proved so unsatisfactory that the Constitution positively directed the Regents to elect a president, who should be *ex-officio* a member of the board, with the privilege of speaking but not of voting, and who should preside at its meetings and be the principal executive officer of the university. It appears, therefore, that in some important respects the university is independent of the legislative and executive branches of the State government; it has a co-ordinate status within its own limits; and there can be no question that this fact has contributed materially to its strength, permanence, and dignity.

Dr. Henry P. Tappan, called from the University of the City of New York to the presidency in 1852, brought to the university the potency of the future. He was drawn to the State by his ardent sympathy with the ideas upon which its educational system was based. He gave that one of the Prussian ideas of which he was put in charge an opportunity to develop. The policy of disregarding sectarian and partisan tests in making appointments was established, thus translating into fact the promise of 1821. The dormitory system was abandoned. The field of study was broadened and enriched. A large increase in the number of students soon expressed the public approval of the new *régime*. The law school was opened in 1859, thus rounding out the plan of 1837. Dr. Tappan's present successor questions whether, in the time of his administration, any other American university was administered in so broad, free, and generous a spirit as the University of Michigan. However that may be, those eleven years certainly gave the institution a place among the real seats of American learning and science.[4]

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[3] In 1862, by an amendment to the Constitution, the number of Regents was fixed at eight, who are elected in pairs on a State ticket to serve eight years.

The impetus that Dr. Tappan gave the university was not lost on his retirement in 1863. It has continued to grow in all directions. Old departments have been expanded and new ones added. President Angell's administration, which will round out its quarter-centennial next year, has been marked by uninterrupted healthful growth.

With this historical sketch before us as a ground, we can rapidly fill in the characteristic features of the University of Michigan.

The first thing to be firmly grasped is the fact that we are dealing with a State university, and not with a private corporation; a university that touches the better life of the State at all points, and commands the suffrages of a numerous, influential, and growing constituency. Save the interest-bearing fund arising from the Congressional endowment, its support comes wholly from the State. The legislature of 1867 passed the first University Appropriation bill, and every succeeding legislature has in some form followed the example. In all, the State, by the way of the legislature, has given the university about two and a half million dollars. At present the institution receives the proceeds of one-sixth of a mill annually on the tax duplicate of the State. Free teaching has been the ideal from the beginning. Fees of all kinds are very low. The law prescribes that the university shall be open to all residents of Michigan without charge for tuition, and beyond that commits the subject to the discretion of the board of Regents. While differences of opinion have arisen on the question whether foreign students should come in on the same terms as Michigan students, the policy pursued has always been a very liberal one.[5] Because the professions that are affiliated with the university lead to bread-winning more directly than general studies, and perhaps for other reasons, tuition charges and other fees are generally rated much higher in law schools and medical schools than in schools of liberal learning. But this is contrary to the Michigan ideal. A discrimination is made between the two classes of students, but it is small.[6] The university draws its life-blood therefore from the State, and its liberal policy is a principal cause of its growth and prosperity.

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[4] This is President Angell's characterization of Dr. Tappan in his Semi-Centennial Oration :

"A man of commanding presence ; of marked intellectual endowments, already proved by the authorship of books which had won for him reputation on both sides of the Atlantic ; of large familiarity with the history of education ; of experience as a college teacher ; of broad and well defined views on university policy; of the warmest sympathy with Crary and Pierce [who had been educational leaders in the State in 1835], and the founders of this institution, in their admiration of the Prussian system ; of remarkable powers of impressing others with his views, whether by public speech or by private intercourse—he took up the work here with a vigor and earnestness that speedily kindled in all hearts the hope of that brilliant success which soon crowned his labors."

In 1870 the Regents adopted a declaration that the right of every resident of Michigan to the enjoyment of the privileges afforded by the university must be recognized, and that no rule existed which excluded any person from the university who possessed the requisite literary and moral qualifications. This was the end of a discussion of the question of admitting women, which was by no means confined to university circles. In fact, the legislature had expressed its deliberate opinion that the high objects for which the university was organized could never be fully attained until women were admitted to its rights and privileges. In the course of this discussion, which began at least as early as 1858, the ordinary conservative arguments were urged on the one hand; while the common arguments for the higher education of women were re-enforced by the averment that a democratic State could not consistently close, or keep closed, a State university in the faces of one-half its citizens; at least so long as it made no other equal provision for them. President Haven said in 1868: "The standard of education would not be changed. The habits of study would not be affected. The honor of the university would rather be increased than diminished." Soon after the Regents took their action, acting-President Frieze reported that the fears of the loss of reputation and caste among universities, the decline of scholarship, and the corruption of morals, which some had expressed, had passed away. A year later he reported again that the strained relations which had existed between the university and the State had been immediately eased by the action taken. Had the admission of women been permanently denied (which was indeed most unlikely, since the Regents are elected at the popular election) the university must have suffered severely. And this leads naturally to the remark that a principal reason for the prosperity of the university is, that the Regents and the faculties, while leading public sentiment within the sphere of their proper influence, have in the main kept in close touch with the people of the State. For a time there was some difficulty in adjusting the women to the university *régime*, mainly or wholly in the professional departments. Objections to the action of 1870 may still lurk in the minds of some students and professors, growing out of sentimental considerations; but no person on the Campus, or about it, of the least responsibility, would now think of dissenting from Dr. Frieze's view propounded in 1871. For the last few years the women registered in the academical faculty have fluctuated from thirty-two to thirty-seven per cent. of the whole number. The president concludes from a study of the statistics that for some time to come the proportion of women in this faculty will be about thirty-three in one hundred, and in all the faculties about twenty-one in one hundred.[7] A generation ago, the mere enunciation of a proposition to put six hundred young women on a college campus and in college halls where they would meet and mingle with three or four times that number of young men, and particularly without surveillance, would have filled conservative minds with terror. Something of the old feeling still lingers in some quarters. It is not proposed here

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[5] The resident student's fees for four years, including graduation, are $120.00; the foreign student's $175.00.

[6] The resident student pays in all $140.00 in fees; the foreign student $195.00.

[7] Report to the Board of Regents for the year 1894-95.

to discuss the co-education question; but it may be said, to the credit of the students at Ann Arbor of both sexes for the last twenty-five years, that their relations have been wholly free from the scandals and even improprieties which some persons so confidently expected.

Intimately connected with the subject of State relations is the connection of the university with the public schools system. One of the Prussian ideas is three affiliated grades of public instruction supported and administered by the State. With the lopping off of the branches already mentioned, the university ceased for a time to be in organic connection with the secondary schools. Such influence as it exerted, while no doubt considerable, was wholly indirect. In 1870 acting-President Frieze discussed this subject, or rather the broader one of the relation of higher institutions to secondary schools, in the light of well-known facts. He stated that most of the instruction given in even the best colleges and universities of the land, including Michigan, was merely gymnasial instruction. He said he saw in the high schools of Michigan the potency of real gymnasia, and the possibility of raising the standard of the work done in the university. He urged the importance of co-ordinating the university and the schools. Some of the best educators of the State, he said, both within and without the nniversity, had proposed that a commission of examiners from the academical faculty should visit annually such schools as might desire it, and give certificates to those pupils who might be successful in their examinations entitling them to admission directly to the university.[8] His report for the next year announces that, in a small way, the plan had been set in motion. He expressed at the same time the opinion that this plan would stimulate the schools to attain a higher rank, would bring them to a more perfect uniformity of preparation, would elevate the university scholarship, and, in particular, would create a reciprocal interest between the schools and the university, and win for the schools a livelier interest on the part of citizens who should thus see the two grades of education in the State closely co-ordinated. This was the beginning of the so-called "diploma" connection between certain secondary schools and the university. It is thus described in the original announcement: "Whenever the faculty shall be satisfied that the preparatory course in any school is conducted by a sufficient number of competent instructors, and has been brought up fully to the foregoing requirements previously named, the diploma of such school, certifying that the holder has completed the preparatory course and sustained the examination in the same, shall entitle the candidate to be admitted to the university without further examination." The faculty should satisfy itself as to the quality of the school by sending a committee of its own number to examine it at recurring intervals. It will be seen, of course, that the plan finally adopted is not exactly the plan that the acting-president had recommended. The faculty examines and approves schools; he had urged that it examine and certificate students. The diploma plan has been widely copied by other institutions, and sometimes with modifications that the mother institution would be the last to approve. In the hands of the faculty that originated it, the diploma plan, while by no means free from difficulties, has worked most beneficially—to the secondary schools, to the university, and the State. It will no doubt be introduced still more widely. It is in fact nothing but an adaptation of the *Abiturienten-examen* of the German gymnasia. It secures measurably an end that the English Royal Commission on Secondary Schools has strongly urged in its recent Report, viz.: "All that it seems necessary for the local authorities to secure is a report from a competent hand upon the general condition and equipment of each school, including particularly the number and qualifications of the teaching staff." But it must be distinctly understood that the uppermost thought in the minds of the men who invented the diploma system was not the discovery of a convenient method of getting students into college. While that object was indeed in contemplation, it was subordinate to the larger thought of co-ordinating and vitalizing all parts of the State system of instruction.

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[8] Report for 1869–70.

The intimate connection betwen the university on the one hand, and the people and schools of the State on the other, has naturally exerted an influence in respect to studies and ideals. Still it is hard, or rather impossible, to distribute the total effect of modifying influence between public opinion and other recent educational causes. In the first part of its history, the work done was on the old-fashioned college lines. The influence of the University of Virginia has never been much felt in the Northern States, nor were President Wayland's pronounced views in respect to college education, set forth in 1842, translated into action by Brown University until 1851. Down to that time college men in the United States had not learned to conduct an institution of higher learning on modern lines. In 1851 the legislature of Michigan passed an act making it the duty of the Regents of the university to provide for a course or courses for such students as might not desire to pursue the usual college course in the literary department, embracing the ancient languages, permitting their admission without examination in such languages, and granting such certificates on the completion of their course or courses as might be deemed appropriate. Dr. Tappan was in full accord with this movement. Accordingly, the catalogue of 1852–53 announced a modern course, and in 1855 the degree of Bachelor of Science was conferred upon two students. Before this date this degree had been conferred in the United States only at the Lawrence Scientific School, and there for the first time in 1851. The new course was only the beginning of differentiation. In later years came the degree of civil engineering, which was afterward discontinued. The degrees of Bachelor of Philosophy and Bachelor of Letters were added to those of Bachelor of Arts and Bachelor of Science. In fact the degree in science has been differentiated, the particular group of studies in which the student has specialized forming the basis for the specialized scientific degree. Propositions to make one degree, or a university degree, to make two degrees, and three degrees, have found lodgment in the minds of some professors; but it is quite safe to say, whatever else may happen, that the requirement of Greek for the ancient degree will not easily be yielded.

Elective studies first appear in 1855–56. One-third of the work in the senior year was then made elective. In 1871 all the senior studies but philosophy were put on the free list. The last and longest step in this line of progress was taken in 1878–79, when a generous system of electives was introduced. Under the existing *régime*, somewhat less than one-half of the work required for a bachelor's degree is prescribed work. In the field of electives, no limitations whatever are imposed upon the student, other than his own scholastic fitness or unfitness to carry on certain studies, as adjudged by the professors. The "university" system, which, as here carried on, permits the student who has completed one-half of the work required for his degree to choose three special lines of study and pursue them closely to the end, was duly legalized; but for some reason it has never proved to be a strong competitor of the "credit" system.

What are now called special students have played a not unimportant part in university life. Since 1852–53 the regular courses have been open to such persons as might choose to enter them, not candidates for degrees, for such length of time as they might elect, provided they were of prescribed age and could convince professors that they had attained to such proficiency as would enable them to proceed advantageously with the studies of the classes which they proposed to enter. A majority of the "specials," after spending one or more semesters at the university, have gone direct to the work of life, but a large minority have become candidates for degrees and have continued to graduation.

B. A. HINSDALE

UNIVERSITY OF MICHIGAN,
ANN ARBOR, MICH.

[*To be concluded*]

V

THE COUNTY UNIT IN EDUCATIONAL ORGANIZATION[1]

The educational thought of our time has been chiefly directed toward the improvement of city school systems. So we hear of the great schools at Boston, Chicago, New York, Cincinnati, Philadelphia, and a score of other places; but I have yet to hear of a single county or township of rural population, the excellence of whose schools entitles them to national repute. The emphasis of our thought has been placed long and devotedly on city schools at the expense of the rural schools.

It is true that cities are the centers of highest civilization. Our human nature has made them so. Architecture, art, literature, schools, fashion, reach their highest forms when people strive with each other for display. The very contact of people civilizes them. Cities are likewise the centers of greatest iniquity. The worthless, the idle, the contentious, the wicked, gravitate toward large centers. Extremes of virtue and vice meet. The force of cities is centripetal. It attracts everything, good and bad alike. But cities do not develop individuality. There is a leveling influence about them that merges individuals into masses, and it is only occasionally that a volcanic genius breaks through the hard crust and thrusts itself above the burning level of great city life. The highest types of individuality, the strong and independent men of our nation, have been born and bred in village or rural homes, away from the turmoil of city life, in quiet and serious communion with nature, in her grand and ennobling forms. It is out of the rural homes that the great men of our country have come. Genius abhors the palace and the crowded cities and the cradles of luxury, and courts the cabins and the open fields and the simple but stern homes of the poor.

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[1] An Address delivered before the Department of Superintendence of the National Educational Association at Jacksonville, Fla., February 18, 1896.

We need skilled labor in the fields as well as in the city. We need intelligent and scientific management of a farm, as well as of a great factory. We need business methods here as well as in the great commercial houses of the city. We need economy of effort and conservation of force and adaptation of invention and discovery here, if we need it anywhere. And we need culture and refinement among the country people. Music, painting, books, and all the evidences of a higher kind of life are as proper on the farms as in the cities. The more highly educated the people of the rural districts are, the more capable they will be of taking advantage of the improvement in machinery, of economizing time and labor in producing raw material, and the more time they will have to devote to culture and the higher arts of civilization. They will accomplish as much as now in far less time, and will live more comfortably and more happily.

That farm life is behind city life in development is due in some part to the isolation of the rural population. Men live too far apart and see each other too seldom to exert a refining influence over each other. In other part, it is due to the attention that has been given to educating the people of the city.

It is quite time that we change the emphasis of our study, turn aside from the contemplation of the excellences of the city schools, and consider the necessities of the rural schools. The wisest policy is to frame some educational scheme that will keep the people in the country, that will stop the exodus from the farms, that will make the rural population content, that will make them enlightened and prosperous.

I believe very firmly that the county or township is the proper unit of educational organization. If one system of schools can be made to extend over a whole county, including the city and villages, the organization will be upon the basis of territory. By this means the entire country can after a while be brought under uniform organization. So long as the organization is by cities, we merely organize by locality, which can never be uniform or entire. It will always remain a one-sided development. A proper policy is to induce the people hereafter to organize by area, rather than by spots. The effect of this will be to give to the rural child the same school advantages as to the city child, and there is every reason in equity and good sense why these advantages should be the same.

I come from an illustration of this kind of organization, and it may not be amiss to tell something of the schools of Richmond County, Georgia, in which county is situated the thriving city of Augusta. Here, for the past twenty-five years, has been in operation, what is known as the county system.

One board of education, composed of representatives elected by the people for a term of three years, one-third of the membership expiring every year, has charge of the entire school interests of the city of Augusta and of the County of Richmond. This Board of Education has the unique power of levying a school tax directly upon the people of the county, without revision by any other authority, and without any limit as to rate or amount. The school tax is levied and collected as a uniform rate upon all property of the county, whether it is in the city or out of it. This forms the general school fund of the county, supplemented by the State appropriation.

When it comes to the distribution of this fund no regard is paid to the amount raised by any ward of the city or any district of the county, but the fund is distributed according to the necessities of each ward and district, determined by the number of children to be educated. The school fund of the whole county is raised by a tax on all the property of the county, and is distributed upon the basis of the school population of each community. Thus it happens that a community rich in naught else but children will get a flourishing school paid for by their wealthy but less fortunate neighbors.

As a matter of fact, a large part of the money paid by the city is annually spent in the rural districts, for the city has nine-tenths of the taxable property, but only three-fourths of the school population. So it happens that the rural schools pay one-tenth of the school tax and receive the benefit of one-fourth of it. Augusta has spent in the past twenty years the sum of two hundred thousand dollars, in building schoolhouses and paying school-teachers for the children who live in the country districts around her. Augusta has shown her faith in the proposition that every city needs to be environed by an intelligent, industrious, and contented population.

When it comes to teachers, the same qualifications are demanded for rural schools as for city schools. Upon the regular examination terms, and upon the issuing of licenses to teach, an applicant does not know whether he will teach in the city or out of it, and to many it is a matter of indifference. And I know whereof I speak when I say that there are young women graduates of normal colleges doing high-grade work in country schools ten miles beyond the limits of the city, and doing it happily and cheerfully. We believe firmly in the further proposition that a country school is entitled to as good a teacher as a city school, and that those who live in the fields are as deserving of education as those who dwell beside the asphalt. Carlyle must have had a country child in his mind when he said "this I consider a great tragedy, that one soul should remain in ignorance that had capacity for higher things."

The teachers are treated as nearly alike as can be. City and country teachers are paid about the same salaries. They get it at the end of every month and on the same day. The certainty and the regularity of a fixed compensation create a sense of security, safety, and comfort for a teacher, and accordingly increases his efficiency. No teacher can do his best work when he works at starvation rates, is paid once every three or four months, and often in scrip that he must discount. There is much philosophy and also economy in the maxim that advises us to pay a public servant well and watch him closely. So we draw no distinction of locality. First-class work is worth as much twenty miles from town as it is in the heart of the city.

The schools of the county all run nine calendar months. They all begin at the same time and close at the same time. During the last year every child of the county, regardless of where he lived, was offered nine months of actual tuition.

So far as schoolhouses are concerned, these are located in rural districts, so as to be on an average of four miles apart. No child is out of walking distance of a school, open nine months in the year and taught by a good teacher. These houses are owned by the board of education and cost from three hundred to twenty-five hundred dollars each, according to size and equipment.

One superintendent has charge of all the teachers in the county. The same degree of efficiency that should attend the supervision of city schools is likewise extended to the country schools. One expert for all is the theory, and, so far as human effort can avail, it is carried out in practice. The same course of study is prescribed for the pupils, and the same course of professional reading is required of the teachers. The teachers of the city schools meet for instruction once a week, the teachers of the county meet once a month, and in addition have a two months institute, in the summer months.

This, in brief, is the outline of the plan of organization of the schools of which I assumed charge thirteen years ago. That it has its defects of management and its minor faults I am prepared to admit. These I need not enumerate at this time. Suffice it to say that no one knows what they are and that they are, more surely than I do. What institution devised and controlled by an imperfect humanity is without the faults that are incident to us as men? That our system is projected upon the proper theory, for all our population, and for all the boys and girls under our tuition, I firmly believe.

There are two other systems in Georgia organized upon a similar plan, one for Savannah and the county of Chatham and the other for Macon and the county of Bibb.

LAWTON B. EVANS

SUPERINTENDENT OF SCHOOLS,
AUGUSTA, GA.

VI

EDUCATIONAL MUSEUMS AND LIBRARIES OF EUROPE

Probably the first formulated statement of the need and character of a distinctively educational museum appeared in a monograph[1] by School Inspector General Jullien of France in 1817. Jullien was indoctrinated with the educational theories of Pestalozzi and desirous of their adoption in his own country. He maintained that an important step in education would be taken if there could be opened at Paris a permanent exhibit of the teaching appliances used by Pestalozzi, together with sets of those in use in other countries, and a library containing the writings of standard pedagogical authors. Jullien's well-directed suggestions, however, seem to have borne no immediate fruit.

From the beginning of the present century, and in connection with various industrial and trades' expositions in Europe, there had been exhibits of pupils' work and teaching appliances; but the purpose was the temporary display of local conditions rather than a permanent representation of educational progress. Perhaps the first permanent exhibit of teaching appliances was that opened at Stuttgart in 1851. It was in no sense a special educational museum, but merely one section of the Wurtemburg industrial museum.

What will surprise most readers is the fact that the first distinctively educational museum was organized in America—the Educational Museum at Toronto, Canada, founded in 1853. Four years later, 1857, as an outgrowth of the educational congress and exhibit held at St. Maryn's Hall, London, the Educational Division of the South Kensington Museum was formed. The next one organized was at St. Petersburg in 1864. A year later one was organized at Leipzig, which, after six years of struggle, was merged into the Comenius-Stiftung. The Bureau of Education at Washington was established in 1867. Three years later the national teachers' association of Holland formed an educational museum at Amsterdam. During the decade from 1870 to 1880, no less than a dozen similar institutions were organized in Europe.

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[1] Jullien, *Esquisse et vue préliminaire d'un ouvrage sur l'éducation comparée* (Paris; 1817).

Some of these museums, as, for instance, at St. Petersburg, Paris, Brussels, and London (Educational Division of the South Kensington Museum), have been established and are wholly maintained by the national governments, and are considered an integral part of the general system of education. Several—at Munich, Budapest, and Neuchâtel—are maintained by state or cantonal governments. Berlin (the city museum), Hamburg, Hanover, and Lisbon are the creations of city governments. Others, as Amsterdam, Berlin (the German museum), Hildesheim, Jena, Brunswick, Stockholm, and London (Teachers' Guild) have been organized and are supported by teachers' associations. A number of these educational museums have been started as memorials to great educators, as that in Leipzig to Comenius, that in Zürich to Pestalozzi, and that in Fribourg to Girard.

There are in all thirty-five educational museums in Europe in active operation and two—Vienna and Rome—that are temporarily closed. A few have only the school museum, and two or three only the pedagogical library. The general aim of all is to bring to the attention of the teachers of their own city, state, or country, the best methods and aids in teaching, the steps of educational progress, the writings of great educators, and the condition of schools and education in the different countries of the world. Several of the most important educational museums described in this article were visited by the writer. For accounts of the others he has relied upon the excellent monograph[2] by Julius Beeger, and the reports, catalogues, and personal information furnished him by the directors of these different institutions.

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[2] Beeger, *Die Pädagogischen Bibliotheken, Schulmuseen und ständigen Lehrmittelausstellungen der Welt* (Leipzig, 1892).

England—There are two educational museums in England—the Educational Division of the South Kensington Museum and the Teachers' Guild of Great Britain and Ireland. The former, as already noted, grew out of the educational exhibit and congress held in London in 1854, although it was not formally opened until 1857. Its object, as set forth in a preliminary announcement, was to "aid all classes of the public, and especially those engaged in teaching, by bringing together all that is new and worthy of attention relating to education, both in its primary and secondary branches, whether of home or foreign production."

Although organized and controlled by the state, the growth of the museum was due largely to the assistance given by the producers of educational books and apparatus. Each object was labeled with its name and use, the retail price, and the name and address of the donor or exhibitor. The school exhibit had eight departments: (1) school furniture and fittings, models of buildings, etc.; (2) cabinets and apparatus for object lessons, toys, doll houses, etc.; (3) drawing models and materials; (4) musical instruments, especially such as illustrate acoustics; (5) collections illustrating household and social economy; (6) apparatus for elementary geography and astronomy; (7) appliances for teaching the blind; (8) hygiene and means of physical training. In 1879 the museum was called upon to vacate the rooms occupied by the school furniture and the non-scientific apparatus, and these were crowded into a wooden building and unsuitable corridors. Nine years later these portions of the museum were dispersed—the loan collections returned to the owners; and such as belonged to the museum packed and stored. In the official report for that year, it is stated that want of space rendered this necessary.

The library, however, has continued to grow from the first. Its aim has been to afford teachers and others interested in education opportunities for examining and comparing the various publications used in schools, together with such books as bear on the history and progress of education at home and abroad. Many of the books have been gifts; and one notes a disproportion which is inevitable in a collection so largely made up of donations.

In its original plan, the library included fourteen departments: (1) English language and literature; (2) classical language and literature; (3) modern language and literature; (4) biography and history; (5) theology and church history; (6) works on pedagogy, reports, examination papers, etc.; (7) political, domestic, and social economy; (8) drawing and writing; (9) music; (10) mathematics; (11) geography and astronomy; (12) geology and mineralogy; (13) botany and general natural history; (14) chemistry, general physics, and mechanics. Since 1883 no books have been added to the first five departments. The present aim is to make it strictly an education and science library. The library numbers 77,000 volumes, 10,500 of which are works on pedagogy, reports, examination papers, etc. The first catalogue was printed in 1857, and nine subsequent additions have appeared. A new catalogue, containing all the books on education, was published in 1893.

The Teachers' Guild of Great Britain and Ireland was organize in 1885, but it succeeded an earlier organization—the Educational Society. Robert Hebert Quick, so well known in this country and the sense of whose loss is so fresh upon us, was one of the chief promoters of the Guild. Its aims are threefold: (1) to form a society which shall be thoroughly representative of all grades of teachers, and which shall be able to speak with knowledge and authority on all matters of education; (2) to obtain for the whole body of teachers the status of a learned profession; (3) to enable teachers, by union and co-operation, to make better provision for sickness and old age, and by the same means to do all such other lawful things as may conduce to their own welfare and the benefit of the public.

The central office of the Teachers' Guild is in London (74 Gower Street), with thirty branches in different parts of Great Britain and Ireland and the English possessions in Asia, Africa, and Australia. The scheme for the school museum includes (1) a collection of school documents (curricula, time-tables, syllabuses of lessons, examination papers, etc.); (2) school class books of all kinds; (3) apparatus for history teaching; (4) apparatus for geography teaching; (5) classical and antiquarian section (models of ancient dress, plans of cities, temples, battlefields, etc); (6) school plant and apparatus; (7) anthropometry; (8) music and drawing. Only a beginning has yet been made in the museum.

The library of the Guild aims to supply teachers with the books necessary for their professional training. So far it numbers but six thousand volumes, twenty-seven hundred of which are strictly pedagogical. Nine hundred of these were presented to the Guild by Mrs. Quick after the death of her husband, and two hundred of the rarer books used by Mr. Quick in the preparation of his *Educational reformers* she has loaned to the library. One hundred volumes from the library of the late Mr. W. H. Widgery, one of the early promoters of the Guild, have been presented as a Widgery memorial. The library of the Teachers' Guild is the best small collection of pedagogical books that has come to the writer's attention in his European studies; and connected with no educational museum or library has he found a more zealous band of educational workers—men like Watson, Storr, Russell, Garrod, and Mitchell, most of whom are known in America through their writings.

France—The Musée Pédagogique at Paris is the creation of the French government. It was organized in 1879—just after the great exposition—largely through the efforts of M. Ferdinand Buisson, the present director of elementary instruction. It occupies a large three-story building of thirty rooms in the Latin quarter of the city (41 Rue Gay-Lussac) and is unquestionably the best equipped and best supported educational museum in the world. The most considerable accessions to the museum have come through the expositions of 1878 and 1889, although the government has spared no expense to make it first-class in every department.

Manual training in all its varied forms of expression is fully represented. The physical and chemical laboratories are most complete. There is a splendid collection of objects in clay, wax, and glass, representing every department of natural history. In the hall filled with beautiful marbles, casts, photographs, and other reproductions to illustrate art education, there is such an artistic representation of masterpieces as only France could bring together. Perhaps there is nowhere a fuller collection of the appliances to be used in the teaching of geography—globes, maps, charts, pictures, diagrams—than here. Schoolhouses in miniature, school furniture, heating and ventilating appliances, plans and photographs of school buildings, and all the conceivable illustrative aids to be used in teaching, bring the number of objects up to something over six thousand and fill a dozen rooms. But with this superb collection—costing vast sums of money and including about everything that is best in the way of teaching appliances—there is a want of organization and a failure to keep the objects in proper condition which render it less helpful to the student of education than the much smaller, but better organized and better kept, museum at Brussels.

The library of the Musée Pédagogique numbers fifty thousand volumes, and these have been secured almost entirely by purchase. The result is a much better selection than one finds in the large pedagogical libraries at Leipzig, Zürich, and London, where accessions have been made so largely through gifts. Every department of education—the history, theory, practice, method, growth of institutions and school systems, treatment of defectives—is here represented by the best books in the leading modern languages. The periodical, reference, and reading rooms are admirably equipped for the accommodation of students and readers. One finds here every educational journal of worth—in whatever language—that is printed in the world to-day. The library occupies sixteen rooms.

Through the circulating department of the library, students and teachers are reached in every part of the republic. All such books are forwarded and returned, postage free, as government matter. Books may be kept for two months. The circulating department of the library has three sections: (1) letters, including works on the French language and literature, history, geography, and political economy; (2) science, including mathematics, physics, chemistry, natural history, agriculture, horticulture, and hygiene; (3) pedagogy, including general works on education, history of pedagogy, philosophy, psychology, ethics, civics, school legislation, and the theory, practice, and history of the fine arts.

Connected with the Musée Pédagogique are several conferences on different educational topics. One of these is the Franco-English Guild, under the direction of Mlle. Williams, professor of English language and literature in the École Normale at Fouteney-aux-Roses, and devoted to the interests of modern languages. It has its own special library, lectures, conferences, and classes, and publishes a journal in English for the French teachers of this language.

Much of the best modern French literature on education has emanated from the Musée Pédagogique. Besides the monthly journal, *Revue Pédagogique*, devoted to elementary education, which has been printed since 1882, and the monographs[3] which it published in 1889, it has been publishing a series of memoirs[4] since 1884 on every phase of educational activity, more than 125 of which have already appeared. The printed catalogue[5] of the library, prepared by Profesor Bonet-Maury of the University of Paris, is the best bibliography of education ever published in any language. It should be noted, in passing, that probably no professional library anywhere is more used than this at Paris. And its readers include not only Frenchmen, but also Englishmen, Russians, Americans, Italians, Bulgarians, Belgians, and Spaniards. The French government, with characteristic generosity, freely admits the pedagogues of all nationalities to its use; and those who know it best, pay it highest tribute. A German educator, in describing it, remarked: "There is only one such collection of pedagogical books in the world."

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[3] *Monographies pédagogiques publiées à l'occasion de l'Exposition Universelle de* 1889, 6 vols. (Paris, 1889).

[4] *Mémoires et documents scolaires publiés par le Musée Pédagogique.*

[5] Bonet-Maury, *Catalogue des ouvrages et documents*, 3 Tome (Paris, 1891).

Germany—But Germany is the country of educational museums. It has in all seventeen, or nearly half the number in all Europe. With a few exceptions, however, these are small exhibits of school work and teaching appliances or inconsiderable pedagogical libraries. The pedagogical library (Pädagogische Centralbibliothek) at Leipzig, and formerly known as the Comenius-Stiftung, is a notable exception. To except a small exhibit which it inherited from an earlier organization, it dates its beginning from 1871—the two hundredth anniversary of the death of Comenius. Its conception and remarkable growth have been almost entirely due to the efforts of one man—Julius Beeger, an enthusiastic student of the writings of Comenius, and until lately the director of the library. He began by issuing appeals to teachers, pastors, and friends of education generally; soliciting gifts in books and money. At the end of the first year the library numbered 2642 volumes, all but one of which had been acquired as gifts. At the end of ten years the library numbered 30,919 volumes, only 4511 of which had been bought directly out of the library's funds. It now numbers 66,604 volumes—probably the largest collection of pedagogical books in the world, although in no sense so select a library as the one at Paris.

The first volume of the catalogue[6] has been printed, and other volumes are to follow. The library is subdivided into fifty-six departments, only a few of which can here be noted: Encyclopedias of pedagogy, 12 different works; collections of standard pedagogical writers, 72; number of different educational journals—in German, 296; in Danish and Swedish, 4; in English, 27; in French, 8; in Hollandish, 6; in Italian, 6; in Portuguese and Spanish, 5; in Slavic, 6; sources of the history of pedagogy, 110 volumes; general works on the history of pedagogy, 29; history of distinct periods in education, 150; histories of education in different countries, 339; educational biographies, 472; histories of individual educational institutions, 3044; systematic pedagogy, 106; physical education, 205, etc. It covers in fact every possible department of educational thought, and is especially strong in the literature relating to the common (*Bürger*) schools of Germany.

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[6] Beeger, *Katalog der Pädågogischen Centralbibliothek* (*Comenius Stiftung*), *Zu Leipzig*, 1 Bande, II. Auflage (Leipzig, 1892).

Students of education are always welcomed and are given every possible assistance by the library management. It is under the control of the Leipzig teachers' association, and is sustained in part by the association and in part by appropriations from the city of Leipzig and the kingdom of Saxony. The library publishes a weekly journal for teachers, the *Leipziger Lehrerzeitung*.

Berlin has two educational museums—the city (Städtische Schulmuseum) and the German (Deutsche Schulmuseum) school museums. The former was organized in 1875, and is under the control of the city authorities and receives an annual appropriation of about $1000. It has a considerable collection of illustrative apparatus and a library of 14,500 volumes. The German school museum was organized in 1876 by the Berlin teachers' association. It has a library of 16,000 volumes, and has aimed to make complete collections of the writings by and about Pestalozzi, Diesterweg, and Herbart.

The Thuringen school museum was opened at Jena in 1889. It is controlled by the Thuringen teachers' association, but its growth has been largely due to the enterprise of Ernst Piltz, the director. The collection of school furniture, teaching appliances, maps, charts, and text-books is good, although the library of strictly pedagogical books is not large. There is, however, at Jena, in connection with Professor Rein's pedagogical seminary, a professional library of about a thousand volumes.

Bavaria has two educational museums—one at Donauwörth, organized in 1875, and under the control of the Bavarian Society for Catholic Education, with a library of 40,000 volumes, and the other founded at Munich the same year and controlled by the government. The latter has a permanent school exhibit of some importance and a library largely composed of text-books.

The Mecklenburg school museum, located at Rostock, was organized 1887, and has a library of 2246 volumes. The teachers' association of the Province of Saxony organized a permanent school exhibit at Magdeburg in 1881. The educational museums at Kiel and Königsberg were both organized by local teachers' associations; the former in 1890, and the latter in 1879. That at Königsberg has a library of 5000 volumes. The educational library at Hanover was organized by the city; and that at Hildesheim in 1889 by the local teachers and has a library of 1000 volumes. At Hamburg, since 1891, the local government has set apart the educational books in the city library in a room especially fitted up for the use of the teachers. At Stuttgart, as before noted, the educational museum is one section of a permanent industrial exhibit. In addition, there are in Germany small school museums at Augsburg, Brunswick, and Dresden.

Russia—The largest exhibit made by any educational museum at the Chicago exposition, with the possible exception of the Bureau of Education of this country, was that of Russia. Although under the administration of the department of war, the Musée Pédagogique of Russia is conducted in the interests of general education. It was organized as early as 1864, at which time the Russian government bought of Germany, France, England, and Italy large collections of school apparatus which were displayed, in a building set aside for an educational museum, at St. Petersburg. At the time no suitable apparatus was manufactured in Russia. It was soon discovered, however, that the imported material was too expensive and not entirely suited for general use. It was accordingly decided that the museum should manufacture certain pieces of school apparatus at government expense and sell the same to the schools at nominal cost. The movement succeeded even better than was anticipated, and after a short time cheap workshops for the manufacture of physical apparatus were organized at various centers. The museum has continued to make collections of the best teaching appliances used at home and abroad, until at the present time it numbers 16,500 pieces—probably the largest in the world.

The library numbers 15,000 volumes besides the publication by the museum of certain text-books for the use of the young—165,000 copies of one text for reading and writing having been printed. During the winter months, when the library is most used, from 70,000 to 100,000 books are drawn. The museum edits a pedagogical journal, and at different times has printed courses of study and suggestions to teachers. It also provides schools with collections for scientific instruction, and gives them the temporary use of magic lanterns, slides, etc. During the past twenty-five years, it has provided 1221 public lectures, 1182 readings for the people, 190 musical concerts, and provided the apparatus for 163,187 lessons. The museum's aim, as formulated by the director, is (1) to be useful to the educated and uneducated classes of the metropolis, as well as to all who may seek its counsels and assistance; (2) to look upon the collection of school apparatus not as a final aim, but as a means of present improvement; (3) to keep its operations not only open to the government, but also to public control.

The museum organizes special conferences for the discussion of educational questions; and all persons having the certificate to teach in middle or higher schools, teachers of the Holy Scripture, medical men, and persons connected with the administration of the schools are eligible to active membership in these conferences. At the present time there are eight such conferences organized in connection with the museum, as follows: (1) general pedagogical section; (2) section for the study of the Russian language and literature; (3) mathematics; (4) physics, chemistry, and cosmography; (5) geography and natural history; (6) foreign languages (French and German); (7) parents' circle, including teachers, physicians, and parents interested in the physical and mental development of young children; (8) section for the discussion of questions relating to the delivery of public lectures.

The operations of the Russian educational museum have twice been exhibited in this country by large and creditable displays—at Philadelphia in 1876, and again at Chicago in 1893. It had similar exhibits at Paris in 1878 and 1889 and at Brussels in 1880. Special exhibits were also made in connection with the international geographical congress at Paris in 1875 and the international hygienic congress at Brussels in 1876. It exhibited its workings to the Russian people at St. Petersburg in 1870, in connection with the manufacturers' exposition, with a display of foreign school appliances and its own reproduction of the same. Two years later it participated in the polytechnic exhibition at Moscow; and in 1890 it organized and conducted at St. Petersburg the first Russian exhibition of children's toys, games, and occupations.

Switzerland—The Swiss people have always been interested in education; and this interest is manifested not only in the character of their elementary schools and higher institutions of learning, but also in the establishment and maintenance of other educational agencies, including school museums and pedagogical libraries. There are four well-organized educational museums in Switzerland. The most important of these is the Pestalozzianum at Zürich, organized 1875. The others are at Fribourg, Berne, and Neuchâtel. The Pestalozzianum has four departments: (1) public collections, including apparatus illustrating the present workings of the Swiss schools, an exhibit illustrating educational practices in other countries, a Pestalozzi memorial room, archives for the history and statistics of education in Switzerland, and a library of pedagogical literature; (2) a bureau which shall organize educational conferences; (3) public lectures; (4) publication of educational literature.

The museum contains very complete lines of work done in the Swiss schools, samples of teaching apparatus used, as well as appliances illustrative of the teaching aids in foreign countries. The exhibit is especially complete in the subjects of drawing and manual training. One room—the holy of holies—has been set aside as a memorial to Pestalozzi. Besides 1000

Pestalozzian manuscripts and 1350 books and pamphlets relating to the great Swiss educator, it has the cradle in which he was rocked, and other personal mementoes, together with a fine collection of photographs of the different scenes of his labors, and a full series of his portraits in paintings and engravings.

The library contains 17,100 volumes, and the catalogue[7] just printed shows a wide range of educational thought. From the first it has been under the direction of Professor Hunziker of the University of Zürich; and although aiming primarily to promote the interests of the elementary schools, it has always been an organic part of the university instruction in pedagogy. Since 1880, it has published the *Pestalozziblätter*, a high-grade monthly journal devoted to the interests of education. The Pestalozzianum derives its revenues from a number of sources—the Pestalozzi Society, the city and canton of Zürich, and the Swiss government.

The Musée Pédagogique at Fribourg was organized in 1884, chiefly through the efforts of M. Léon Genoud, who represented the Swiss government at the educational congresses held at Chicago in 1893. The museum has four departments: (1) collections of teaching appliances; (2) pedagogical library; (3) works by Père Girard, and books relating to him; (4) documents relating to the history of education, school legislation, and statistics. The museum contains 9733 objects, and the library 4643 volumes. It is especially strong on educational works in the French and German languages. It publishes a journal for teachers—the *Bulletin Pédagogique*.

The educational museum (Sweizerische permanante Schulausstellung) at Berne was founded 1879, although there had been before that date a permanent school exhibit in connection with the industrial exposition, on the plan of the one at Stuttgart. It is managed by a teachers' association, and the city and canton of Berne contribute toward its support. It includes (1) appliances illustrating Swiss education; (2) models of schoolhouses, furniture, etc., used in foreign countries; (3) objects and materials illustrating the history of education; and (4) a pedagogical library. The museum has 1506 pieces, and the library 8000 volumes. A monthly journal, the *Pionier*, is published by the museum management.

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[7] Hunziker, *Katalog der Bibliothek des Pestalozzianums* (Zürich, 1894).

In 1887 the educational museum (l'Exposition Scolaire Permanente) of Neuchâtel was formed by the educational department of the canton government. It aims to illustrate by pupils' work, text-books, and teaching appliances the subjects taught in the elementary schools.

Austria-Hungary—When preparations were being made for the great international exposition of 1873 at Vienna, it was decided to organize a permanent educational museum (Permanente Lehrmittel Ausstellung). A government regulation provided that all new and valuable teaching appliances intended for elementary schools should be procured and exhibited here. The museum was well equipped by the accessions which came to it through the exposition. It continued to grow, in spite of insufficient funds, until it included 19,000 objects. But financial difficulties finally compelled it to close. How long it will remain closed, no one with whom the writer communicated seemed to know; but it does not seem probable that a great city like Vienna will be long without this educational institution. A recent monograph[8] by Professor Stejskal shows that the Austrian schoolmen are agitating its reopening with considerable vigor.

At Bozen a permanent school exhibit was opened in 1889, and the same year the teachers' association of Tyrol organized an educational museum at Innsbruck. The educational museum at Graz was opened in 1881. It occupies seven rooms and has both a museum and library. The former includes 6840 objects, and the latter contains 2000 volumes.

Hungary has shown a larger interest in her educational museum than Austria. From the first it has been a state institution and has received liberal support. The Hungarian educational museum (Orszagos tanszer-múseum fö-felügyelösége) was opened at Budapest in 1877. It has fifteen sections, including plans and models of schoolhouses and furniture, kindergarten supplies, apparatus for teaching the blind, outfits for physical and chemical laboratories, globes, tellurians, maps, and other geographical appliances, musical instruments, drawing models and casts, and sets of tools used in the manual-training schools. It numbers about 5000 pieces, and the library contains 1200 volumes. A number of educational conferences are organized in connection with the museum.

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[8] Stejskal, *Die Errichtung eines k. k., österreichischen Museums für Erziehung und Unterricht* (Wien, 1894).

Belgium—The educational museum (Musée Scolaire National) at Brussels is conceded by all familiar with such institutions to be one of the best in the world—ranking in size and excellence with St. Petersburg and Paris. The writer found the museum portion more helpful than the one at Paris, because of superior organization and greater care of the articles displayed. The library bears no comparison with that at Paris, or a half dozen others in Europe. This museum was the outgrowth of the international exposition held at Brussels in 1880, one of the exposition buildings (Palais du Cinquantenaire) having been set aside for its use. It derives its support wholly from the government, and this from the first has been liberal—$3000 to $4000 a year.

In arrangement and display of work, the museum at Brussels is a model. It has nineteen departments, and an excellent catalogue[9] aids materially in the study of each. The first section is devoted to legislation, organization, and statistics of the schools of Belgium. By means of charts and diagrams, the visitor gets at the outset a schematic view of the school system of the country, and the relation which the different types of school bears to the general system of education. Section two is devoted to the earliest period of school life—helps for the use of mothers—and a fully equipped kindergarten. Section three begins with the primary school; and here again is a model room entirely fitted up with furniture, pictures, books, charts, and all the auxiliaries of such a school.

[9] Germain, *Musée scholaire national: Catalogue provisoire des collections* (Bruxelles, 1892).

Section four is devoted to the subject of agriculture as taught in the primary, secondary, and normal schools. Methods of teaching the blind occupy the fifth section. Domestic economy and housewifery, with all the appurtenances of a laundry and cooking school, form the sixth section.

Manual training, as taught in the elementary and normal schools, is the basis of the seventh section. The courses of study, drawings, models, and specimens of work done by the Belgian children are exhibited, together with similar lines of work from Sweden, France, and Germany. The eighth section is devoted to geography. It contains 347 pieces, including text-books, wall and relief maps, globes, atlases, products, pictures, photographs, and models. It contains not only the geographical aids used in the schools of Belgium, but also good collections in use in other countries, including the United States. The ninth section is devoted to the geography of the Congo—a remarkably interesting collection, illustrating the geography of that part of Africa by means of books of travel, maps, pictures, photographs, natural products, implements used by the natives, etc. The tenth section is devoted to the teaching of history and the Bible: the eleventh to gymnastics and physical training; the twelfth to the organization of normal schools; the thirteenth to the teaching of the natural and physical sciences; the fourteenth to drawing and historical art; the fifteenth to children's societies, savings banks, and the effects of alcohol; the sixteenth to school organizations, supervision, and management; the seventeenth to school hygiene; the eighteenth to a temporary display of the work done by the pupils in the elementary and normal schools; and the nineteenth section is the pedagogical library. The museum contains more than 5000 different objects, and the library has 6500 books and 3000 pamphlets and reports.

Sweden—An educational library (Pedagogiska Biblioteket) was opened at Stockholm in 1885 by the Swedish teachers' association. It began with 2855 volumes, not including journals, reports, and catalogues, and now numbers more than 13,000 volumes. According to the first volume of the catalogue,[10] the library is classified as follows: (1) journals, reports, and proceedings; (2) encyclopedias and collections of standard educational writings; (3) education and instruction in general; (4) methods of teaching special subjects—religion, history, geography, language, manual training, etc.; (5) university education; (6) school hygiene and architecture; (7) history of education; (8) school systems in other countries. The library is open to the free use of teachers and school officers, as well as to writers of text-books and pedagogical treatises. It is supported by a teachers' association, and aided by appropriations from the school board of Stockholm and the department of public instruction for Sweden.

Spain—The educational museum (Museo Pedagógico) of Spain was founded at Madrid in 1882, and intended rather for the education of teachers than for the investigations of scholars. It has a good collection of teaching appliances, and is most used by the normal-school students. As in France and Belgium, one notes special collections to illustrate the teaching of historical art. Regular courses of lectures are organized by the museum for the normal-school students and the teachers in the vicinity of Madrid. Like the national museums in France and the United States, the Spanish organization prints many pedagogical documents which are distributed to the teachers of the country. The printed catalogue[11] shows that the library contains several thousand well-selected pedagogical books.

Italy—The Italian educational museum (Museo d'Instruzzione e d'Educazione) was established at Rome in 1874, during the ministry of Sgr. Bonghi, on the plan of the museum at Vienna. It enjoyed great prosperity during its early history, but has lately been compelled to close for want of financial support.

Holland—The Netherlandish educational museum was founded at Amsterdam in 1870 by a national association of teachers. The museum contains school books, plans of schoolhouses, specimens of furniture and apparatus, portraits of distinguished educators, and work from pupils of the intermediate schools. The library includes works on general pedagogy, the history of education, methodology, school systems of Holland, Austria, France, Great Britain, United States, Belgium, Saxony, and Switzerland, besides many educational journals and pamphlets.

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[10] Lagerstedt, *Katalog öfver Pedagogiska Biblioteket* (Stockholm, 1891).

[11] Cossio, *Catálogo general del Museo Pedagógico* (Madrid, 1889).

Denmark and Portugal—Of the Danish educational museum at Copenhagen, the writer was unable to obtain any official information. Through a private correspondent there, however, he learned that its chief characteristic was its inactivity. The Portuguese educational museum (Museu Pedagogico Municipal) was opened at Lisbon in 1882. It is maintained by the city government; but the writer failed to receive replies to his letters of inquiry regarding its development and present workings.

W. S. MONROE

STATE NORMAL SCHOOL,
CALIFORNIA, PA.

VII

DISCUSSIONS

INTEREST AND THE TRANSCENDENTAL WILL

Dr. Frank M. McMurry, in his article, "Interest: some objections to it," published in the January (1896) EDUCATIONAL REVIEW, dismisses the objection to the doctrine of Interest founded on its relation to the Herbartian theory of the origin of the will, (1) with the statement "that the Herbartians, while greatly interested in the discussion of the transcendental will, regard the problem as belonging to metaphysics rather than to pedagogy," and (2) by giving a definition to transcendental will which is not accepted by those who attack the doctrine of Interest; and by inferring that such a will is incapable of education.

Such a dismissal will not satisfy those who, like the writer, believe in the transcendental will, as defined by Dr. Harris, and who have a profound belief that an educational doctrine founded on a false psychology must reveal itself in practice as radically defective. We are disturbed by the fact that its opponents claim that Interest is vitally connected with a theory of the origin of the will which we conceive to be false, but the truth of which Herbartians, who expound and defend the doctrine of Interest, seem to take for granted.

This vital relation of Interest to the will is its most assailable point, and it is just here that the defense is weakest. I accept the definition of the transcendental will as "a will which can originate modifications in its environment, and therefore set aside to a greater or less extent the stream of causation in which it finds itself," and propose to justify the acceptance of the principle of Interest.

The majority of our actions as adults are directed by necessity, not by interest. I am writing this paper because I am interested in the subject, but I do my daily work because I must. On that depends my livelihood and that of my family. To the extent to which I am interested in my daily vocation, I am impelled by Interest, and the necessity, while objection-ably present in my life, is not felt as a mental force influencing my will. Who shall say that my life does not move with greater freedom, and that my will is not stronger and more definite in action because I have chosen a vocation in which I am interested, instead of being driven by necessity to one which I dislike?

Place a child in the midst of surroundings which are grossly immoral, and his will is powerless to originate modifications in his environment that shall set aside the streams of causation in which he finds himself. Place a child whose parents have been vicious and immoral in a pure environment and under wholesome influences, and his will may be strong enough to originate such modifications in his hereditary tendencies as will save him. When a child studies a subject because of the inherent interest it possesses for him, his will correctly adjusts the organs of sense for observation. On the contrary, when he is set to a task he dislikes (not having a competence of motives, such as duty, or the necessity of labor, or the formation of right habits), he neglects his work; *i. e.*, his will makes no effort to originate modifications, etc.

In other words, to arrange a course of study independently of the child's interest is to deprive him of the opportunity to exercise his "transcendental will." To observe the principle of Interest is to afford opportunities for the child constantly to exercise, and thus develop his "transcendental will."

Further, when we study a subject in which we are not interested, we study it superficially; but when a subject in which we are interested engages our attention, we find unexpected difficulty in that deeper study which we give it. New and hard problems arise, which tax our will and strengthen it as it urges us on to a complete mastery of the subject of study. So, in a less degree, is it with the child. The contention is then that Interest can be defended on the basis of the transcendental will; that it affords that opportunity for its activity and development which is lacking where there is no inherent Interest in the study; that, finally, Interest leads the student into that more intensive study where he meets difficulties which require a strong exercise of the will to overcome, and this power is exercised because of the strong interest already aroused.

A. F. AMES

RIVERSIDE, ILL.

VIII

REVIEWS

A course of study for the eight grades of the common school, including a handbook of practical suggestions to teachers—By CHARLES A. MCMURRY, Ph. D. Bloomington, Ill.: Public-school Publishing Company, 1895. 152 p. 50 cents.

Dr. McMurry publishes the course of study which he has worked out, with the aid of some other teachers, for the training department of the Normal School at Normal, Ill. He is one of the leading exponents of the Herbartian pedagogy in this country. Consequently, it was to be expected that the course of study he evolved would be a practical application of the doctrine of concentration, which, whether rightly or wrongly, has come to be regarded as one of the fundamental doctrines, if not the fundamental doctrine, of Herbartianism.

Dr. McMurry, however, is modest in his own statement of what he has accomplished. "The doctrine of *concentration*," he says in his preface, "has influenced the choice and arrangement of materials not a little." After the remark that "Concentration is a very large and comprehensive problem and can be worked out only gradually," he proceeds: "Not much effort is made in this course to correlate arithmetic with the other studies, and in writing, drawing, and music not very much is yet accomplished, but in history and literature, reading, geography, natural science, and language, there seems to be already a natural and legitimate field for correlating studies." It is interesting to note in these sentences the confusion of the terms "correlation" and "concentration." Or are these terms synonymous?

I could wish that Dr. McMurry had extended his preface sufficiently far to tell us on what principle his "concentration" or "correlation" is based. I confess that I find some difficulty in determining it. As far as the mechanical arrangement of topics is concerned, this course of study presents, in appearance at least, as rigid an isolation of studies as even Dr. Harris could desire. Reading, arithmetic, writing, spelling, drawing, etc., have each its separate place and each its separate allotment of time, and, when I examine each grade, I find that the center, or apparent center, changes more than once.

In the first year, most of the work grows out of the literature, which, it is presumed, is to be read or told to the pupils. Thus the story of "The old woman and her pig" supplies the "two central characters" of the dog and cow, which are to be studied under the head of nature-study. "The four musicians" suggests the study of the donkey (compared with the horse), the cat, the chicken, and related types. Grimm's "The bird with no name" leads to observation of the robin, woodpecker, and the like. The stories and related studies supply material for the first lessons in reading, which, however, are to be accompanied by drills on the sounds of the letters and the use of a primer. Besides the usual drill on numbers, according to a modification of the Grube method, the literature and science are drawn upon for material: the child is to "show as many fingers" as there were trees around the grandmother's house in the tragedy of Red Riding Hood; to count the "long, sharp teeth" of the dog; and to discover how many teeth are lacking in the upper jaw of the cow. The stories, again, are to supply material for language lessons, spelling, and writing; while drawing is confined to molding in clay and cutting from paper the objects studied under nature, and to pictorial illustrations of stories. Indeed, the first grade presents the best example in the book of concentration. Many persons, however, will be inclined to wonder why it is necessary to introduce familiar objects such as the horse and the cow, the duck and the bean, through the medium of the fairy story. Are not the child's impressions, derived from observation at first hand, a sufficient basis for apperceiving whatever of new knowledge it may be proper to present? The Herbartian would probably answer that interest in the object is heightened by the skillful use of the story. But may not interest in the story be lessened by reducing its idealizations to the baser uses of counting, modeling, paper-cutting, and the like? In fairy tales, says Colonel Parker, "The cruel bonds of stern reality are broken, and it [the child] enters a beautiful and invisible world, peopled by creatures of its own fancy." Why destroy the illusion? Is not the whole plan of concentration here outlined purely artificial? We might as well make the story of Santa Claus the basis of study in physiology, or turn the "Ode on the intimations of immortality" into an exercise in parsing.

In the second year most of the work is founded on *Robinson Crusoe.* "The children measure off in the school yard the distance from the door of Robinson's cave to his fence in front, the distance apart of the ends of his fence, which was in the form of a semicircle, the length and breadth of his cabin. In cutting out his clothes the different pieces are measured. His baskets held different amounts; his jars also. He measures his milk, his wheat, and rice; he gathers lemons, oranges, and cocoanuts by the dozen. The number of goats in his different pastures are made the basis of study." I quote this passage at length to indicate fully Dr. McMurry's method. I am inclined to use regarding it Dr. McMurry's own words of warning to those who would obscure geography with a "vast redundancy" of science: "We have no right in the midst of a geographical discussion to run across to some scientific topic, and in the treatment of it to lose sight of the original subject. If this were true, we should be equally justified in running on from the natural science topic into history and never returning to our original point of departure. But this would lead to total confusion of studies."[1] Have we any right in the midst of a literary subject to "run across" to arithmetic or science, and thus to mar the interest of the story? Science and geography, and number and history, should be used in connection with literature just so far as they "explain and clear up" the meaning. They should not be allowed to "overload" it.

In the third grade the use of "concentration" is difficult to discover. Arithmetic is not directly correlated with the other subjects, except so far as the teacher may be able to draw on them for material in the construction of problems. Geography is introduced, but has no connection with the literature. The latter treats of Greek myth; the former, of home surroundings; while the natural science has no direct connection with either study.

"In the fourth grade," says Dr. McMurry, "perhaps better than in any other can be seen these relations of studies to one another which the theory of concentration requires." History is introduced, and, as the historical studies treat of the pioneers in the Mississippi Valley, as the geography includes "twenty important topics" drawn from the same region, and as the natural science includes specimens of its fauna and flora, these three subjects may be regarded as closely related. But why, on any logical theory of concentration, should children, while studying the geography, history, and fauna and flora of the Mississippi Valley, be required to read *Ulysses among the Phæacians*, *Tales from Spenser*, *Stories from the History of Rome*, *Heroes of Asgard*, Homer's *Iliad*, and *Gulliver's Travels.* If the grotesque "The old woman and her pig" is good enough to form the foundation for science teaching in the first grade, surely the history and physiography of the Mississippi Valley might be expected to furnish some literature around which the details of these studies would naturally cluster.

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[1] EDUCATIONAL REVIEW, IX: 455.

In the fifth grade the history and geography treat of the Atlantic coast; and the natural science pays a compliment to the ocean by presenting for study the oyster and the clam. The literature, with the exception of Higginson's *American Explorers*, and, to some extent, *Hiawatha*, treats of alien subjects, such as Ruskin's *King of the Golden River*, and Arnold's *Sohrab and Rustum.*

In the sixth grade reading and history are closely connected, both treating largely of colonial subjects; but the geography, that of Europe, is isolated; while the natural science has scarcely any connection with any of these subjects. Here we are confronted with this extraordinary statement: "In this grade the exercises in the use of correct English, oral and written, should be brought to completion." It is impossible that the author means what he says.

In the seventh grade reading and history are still kept in touch. The Revolution is the center of both. Geography, on the other hand, wanders off to Asia, Australia, Africa, and South America. Grammar is introduced and is made to treat of such subjects as the "thought process" and its "three elements," the sentence and its "three elements," the classification of words as "substantives, attributives, and relationals," "nouns, pronouns, and infinitives," phrases and clauses. It is a pity that a most admirable treatise in this grade on methods of teaching percentage should be marred by the following attempt to "correlate" natural science and arithmetic: "An apple will be presented to the class; it will be cut into halves, fourths, and eighths. The pupils will be required to tell what part of the apple, peeling, meat, juice, etc., is presented each time." For objective illustration, the wise teacher will confine himself to material that can be accurately measured. An apple cannot be divided, except by the rarest chance, into exact halves or fourths.

In the eighth grade history is brought down to the "recent history of political parties." Some literature related to the history, such as Webster's *Reply to Hayne*, Emerson's *Fortune of the republic*, and Lincoln's *Gettysburg speech*, is used; but for the most part the reading matter is alien to the history. The geography deals with topics selected from North America; grammar, with the classification and inflection of words; natural science, chiefly with experimental physics; while the arithmetic is supposed to be complete.

I have drawn up this rough outline of Dr. McMurry's course of study to show how very little, after all, one of the avowed advocates of concentration has been able to secure concentration. In the first two years a pretty complete scheme of concentration, artificial though it is in many respects, has been worked out. From the beginning of the third year, there is no common center. Diligently has Dr. McMurry searched for it; but he has not found. It would be an extremely rash, though not unnatural, conclusion, to say that it does not exist. In justice to the author, however, I must repeat that he lays no claim to a discovery.

From other points of view, however, this course of study is open to criticism. In writing, drawing, and music, the author tells us, with regard to correlation, that "not very much is yet accomplished," and yet drawing presents the one systematic attempt at correlation throughout. It is confined to representation of objects studied under natural science and of the child's ideas of the literature read. This is a bold challenge to the prevailing method of teaching drawing. I do not attempt to pass judgment upon it. It must be tested by its fruits. The exercises suggested should certainly be practiced; but is there not an "alphabet of drawing" that must first be mastered in isolation, to render such work effective?

In the seventh grade is presented an elaborate disquisition on the teaching of grammar, which contains many things "hard to be understood." In the first place, Dr. McMurry would present to the child the logical view of the sentence as consisting of subject, predicate, and copula. The consensus of opinion among teachers, ever since grammar was taught to children, has been that this Aristotelian view of the sentence, necessary as it is for logic, is altogether too subtle and abstruse for the child mind. The teacher of to-day will be confirmed in this view should he attempt to make a thirteen-year-old boy in the seventh grade understand the following: "The attributive verb is different from the adjective verb in having the assertive or relational element. On account of its having this copulative function, the attributive verb can never be a modifier as the adjective can, but will always express two of the principal ideas in the thought process, that is, it is the predicate adjective and the verb." Every logician knows that Dr. McMurry's analysis of what he calls the "attributive verb" is correct, but it is not "milk for babes."

The real "milk for babes," the classification and inflection of words, Dr. McMurry puts last in his scheme of grammar. In doing so I cannot but think he makes a mistake. Much of this work must always be memory work. It can be learned just as readily in the fifth and sixth grades as in the eighth; and, when so introduced, may be made of almost infinite use in connection with composition and the study of literature. Such a use is a true correlation.

Again, Dr. McMurry requires at some points in his course an amount of work far beyond the physical and intellectual powers of the children in the grammar school. For instance, the reading matter required in the eighth grade is quite as extensive as that set for admission to our foremost colleges. Here are the items: *Vision of Sir Launfal*, *Brooks's American Orations*, *Selections from Ruskin*, *The Vicar of Wakefield*, Plutarch's *Lives*, *Merchant of Venice*, *Roger de Coverley Papers*, Emerson's *Fortune of the republic*, Webster's *Reply to Hayne*, Bacon's *Essays*, Scott's *Marmion* and *Lady of the Lake*, Shakspere's *Julius Cæsar*, Johnson's *Rasselas*, and Lincoln's *Speeches*. Truly this is a formidable array of literature. It recalls Professor Brander Matthews's judicious remark: "To compel the young to study that which they are then unable to understand is likely to give them a strong distaste for the fare thus forced upon them."[1] This literature, however, is only a small fraction of the work of the grade, which, as already set forth, includes history, geography, arithmetic, grammar, and this appalling list of scientific subjects: heat, the mechanical powers, gravitation, hydrostatics, pneumatics, light, sound, magnetism, frictional electricity, and voltaic electricity. To state this list is to show its absurdity.

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[1] EDUCATIONAL REVIEW, IX: p. 413.

On the other hand, many subjects now usually included in courses of study are omitted. Physical culture, morals and manners, and civics are left out; and no attempt is made at enrichment by the introduction of algebra, geometry, Latin, or manual training.

The chief merits of the book are, first, the many excellent suggestions it provides as to methods of teaching; second, the admirable lists of topics it presents, particularly in geography and natural science; and, third, the selection of poems and stories for reading, memorizing, and language work. In its general scheme, I cannot regard it as equal to many existing courses of study; in its suggestiveness, it is in many respects worthy of the highest praise.

WILLIAM H. MAXWELL

SUPERINTENDENT OF PUBLIC INSTRUCTION,
BROOKLYN, N. Y.

A Dano-Norwegian reader—Selections from Danish and Norwegian authors, arranged for the use of learners; with English translation of the prose pieces; grammatical outline; and vocabularies.—By J. Y. SARGENT. [Parallel Grammar Series.] New York: Macmillan & Co., 1895. vi + 176 p. $1.00.

Mr. Sargent's little book is modestly put forth in the preface as a "slight introduction," which characterization thus at the outset disarms criticism as to its limited scope. Its purpose, as stated in the same place, is to form an easy road to a reading knowledge of Danish and Norwegian authors, apparently for the common man, to whom results are promised with the exercise of "a little intelligence" and "no great industry." The expressed purpose of the author is to proceed along the lines of least resistance. With this end in view, he accordingly prints first a variety of prose extracts from Dano-Norwegian literature on one page, and over against them, on the other, the corresponding English translation; secondly, a number of poems by Danes and Norsemen, from Paludan-Müller to Ibsen; afterward a grammatical outline in some twenty pages; the elements of pronunciation, and, finally, a vocabulary of the proper names occurring in the verse.

It is extremely problematical whether the first part of the *Reader* will be as efficacious as the author has hoped in the direction of any substantial knowledge of the inflexions and syntax of the foreign language. Once more according to the preface, "the English translations have been made as literal as possible, and, as far as practicable, the order of words in the original has been kept." Such a system, however, to have fulfilled the proper measure of its usefulness, should have presupposed an absolutely literal translation and the almost exact retention of the order of words. This latter point has been helped out to some extent by footnotes, but there is still implied an intuitive knowledge which the learner, who is here brought for the first time face to face with the new language, can scarcely be imagined to have. A syntactical summary, even a short one, would have added greatly to the efficacy of the book. With a knowledge of inflexions the learner will come off somewhat better, for the grammatical outline, condensed as it is, will put him into possession of fundamental facts. As is the fault generally of such condensations intended for elementary purposes, the grammar, nevertheless, is far too concisely stated and presupposes the application of generalizations where, from the circumstances of the case, it is well-nigh impossible. Such a grammar as this is doubtless infinitely better than none, but the desire to be short and sharp in statement has impaired it. Its phraseology, like its purpose, is purely practical, and some of its statements would probably not be left to stand in a more pretentious work.

The author's *Grammar of the Dano-Norwegian Language* (1892) is, in the main, a piece of work fairly well suited to its purpose. The present book is too unambitious. Dano-Norwegian *Readers*, from the nature of the case, cannot be printed every year, and one to have corresponded in scope with the author's *Grammar*, and based upon it, would have been a much more fortunate use of his opportunity. The selections from prose and poetry are fairly representative. Almost everybody is there but Björnson, in some ways the most notable of all. In his notes, it is worthy of remark to see that the author still keeps up the fiction that Vinland had a probable geographical connection with our own Massachusetts. As a sign of the times the *Reader* is interesting, as indicating an increased attention to the more northern members of the Germanic group of languages.

William H. Carpenter

Columbia College

The connection between thought and memory: a contribution to pedagogical psychology on the basis of F. W. Dorpfeld's monograph, *Denken und gedachtnis*. By HERMAN T. LUKENS, Ph. D., Docent in Clark University, with an Introduction by President G. STANLEY HALL. Boston: D. C. Heath & Co., 1895. 169 p. $1.00.

The purpose of this monograph is to establish and apply the principle that, while thinking is the end of the intellectual matter, there can be no thinking without something to think with, and this something the memory alone can supply; and further that, while memory is thus the servant of thought, thought, especially if duly harnessed to the task, is far and away the most effective means of committing to memory. That is to say, if it be true that "the law of thought is likewise one of the two laws of memory," it follows that by far the greater part of the work of memory may be accomplished by thought, and further, that memorizing may be made a noble and inspiring activity, instead of a degrading and distasteful task. And so, as Rector Dorpfeld tersely put it—"the teacher who neglects memory is a fool; if he neglects thought he is doubly a fool; and if besides he overlooks the connection between thought and memory, he is a fool thrice over."

The book may therefore be regarded as a plea for rational drill, and as containing hints for making drill rational. And there is that in its doctrine which should serve as a corrective of some of the faults that seem to attend the virtues of the new education; such faults as, for example, saying that it is "not knowledge we seek, but power"—as if there were ever any power except through knowledge; complaining of examinations, which is well enough, and abolishing them, which is not well; acting as if "drill" were of necessity synonymous with *dry*, and exaggerating the force of "the immediate impulse of intrinsic thought" in its bearing upon the power to recall. In this light it appears that the trouble with the old education is not that it gives drill, but that it gives nothing else; and that while the new education aims first of all to give *something*, it is in danger of forgetting that the content is not merely to be presented once for all, but to be driven home.

One prime effect of this book should be, therefore, to help teachers to read a truer meaning into *repetitio mater studiorum*, and to suggest to them the possibility of buoyant, patient, varied, rational, interesting, and—everlasting, drill. The question "How teach children to study?" is here answered, as also the query "How conduct the unprepared recitation?" The teacher's work is thus seen to be, not only to prepare the soil, present with clearness, organize and apply, but to give time withal for silent, *thoughtful* repetition. "The work of memorizing," Dorpfeld goes so far as to say, "should be done in the school. This applies equally to all the subjects of instruction."

This book, which is now for the first time made available for readers of English, is based upon a later edition of a work which first appeared in Germany some thirty years ago. The second edition was published in 1884, since which time there have been three editions, but practically no changes in the text. The possibility of making the book better was appreciated by the author, and this he would have done, as he himself wrote, had the state of his health permitted. To the American translator and reviser was left the task that it was not permitted to the author to carry through.

The commendatory words which President G. Stanley Hall has written in the Introduction, imply, if they do not state in terms, that Dr. Lukens has presented us "with a condensed digest, instead of a literal translation." This will be accepted by most of us as a valid criticism of that "excessive reverence for the German speculators of half a century ago," now "obsolescent," from the results of which, in its acuter forms, we are still suffering; and it should be taken as an ideal for much similar work. But it cannot fairly be claimed that the original work has been in any strict sense condensed or digested. In so far as the present writer has had the opportunity of judging, this book is, for the most part, a pretty faithful translation of the German text. As for the rest, many passages of purely local application have been omitted or adapted, helpful illustrations and remarks have been inserted, foot-notes and bibliographies have been added, and, in one notable instance, a long passage setting forth the Herbartian view of association—in which the worthy Rector is moved to compare the service of Herbart in the matter in hand with that of Sir Isaac Newton *in re* gravitation, to the distinct disadvantage of the discoverer of the laws of purely material association—is replaced by an admirably clear, succinct, and modern exposition which constitutes Dr. Lukens's chief original contribution to the book. But, on the whole, the impression naturally produced is that the book remains essentially Rector Dorpfeld's, when it might better, perhaps, have been made Dr. Lukens's; that it is still a psychological monograph with a pedagogical appendix,—as its author admitted it to be,—while the present need of American teachers calls for a transfer of the emphasis to the pedagogical side and a consequent expansion and enrichment of this part.

To American readers it may also seem that the references to "the text-books," which in 1866, and even for twenty years thereafter, were doubtless open to the indictments brought against them, might better have been omitted; and, further, that instead of aiming at "regulatives" and the advocates of memoriter methods generally, the guns should have been trained on the more modern adversaries of the truth. New times, new errors. The old errors persist, it is true, but their hidebound advocates do not read Messrs. Heath & Co.'s publications. The suggestion seems pertinent, also, that a book of this kind might profitably be made still more applicable to the needs of secondary teachers, increasing numbers of whom are now seeking and will continue to seek professional training. The time has happily gone by when a pedagogical work of this grade can fulfill its mission unless its author address himself not only to elementary teachers, but to college graduates as university students or teachers in secondary schools. There are parts of mathematics more interesting and instructive to teachers in elementary schools and secondary schools alike, than the learning of the multiplication table, which is the sole example of its kind given. An illustration drawn from the arithmetic of the sixth grade, or from the algebra of the eighth grade, or both, would meet the needs of a larger constituency. Application of the principles advocated to the methods of teaching grammar, both in the vernacular and in foreign languages, might also be inserted. Nevertheless, as it stands the book does appeal to specialists and to general teachers. If, however, we add to the foregoing the suggestion of President Hall that "more stress should be laid upon immanent thinking,—as being incalculably more important than intentional thinking, though the latter is the kind chiefly dealt with in books,"—we may say that, on the whole, the plan of the American work might be modified to advantage. There is room for further enrichment with the results of modern child-study. The adaptation to present American conditions might be nicer, and the whole discussion brought more completely down to date. In no spirit of depreciation is this said, but in the hope that a good book may be made excellent. In the same spirit the following minor points of criticism are briefly suggested :

The fact that the original monograph was written before modern psychology was discovered may be answerable for the treatment of the intellect as something quite apart from the feelings and the will. Even Dr. Lukens writes that " thought is the sole purpose . . . of . . . memory." A change in this regard would seem desirable, if the book is to appeal to readers of modern psychology. On the other hand, the disadvantage arising from the original author's fidelity to the Herbartian psychology is for the most part only apparent. If the chapter on thought could be modernized, as the paragraphs on association have been, there would remain not enough of the Herbartian psychology to cause more than a passing twinge. There is, to be sure, a certain advantage in the view taken of reasoning, that it is only presentation, dependent on continued clearness of ideas (p. 16); but this view, and also the statement that " to judge is nothing more than to call up clearly in consciousness a distinct mental representation or idea of the object to be judged, together with those characteristics wherein it is like or unlike another object" (p. 57), must be regarded as loose. Similarly, the account of judgment as " an act of mental representation, wherein two concepts (in the sense of subject and predicate) stand together complete in consciousness" (p. 13) might easily prove misleading ; the essential part of the act being, as it were, smuggled in under cover of parenthesis. In short, if the present writer may hazard a guess as to what is lacking in this discussion, the one thing needful here is a wholesome touch of that transcendental quality of which Dr. Harris might on application furnish an adequate supply. Instead of a " mode of presentation" *to* something (that just has things presented to it, a free fight thereupon ensuing between said things), we should then read of a "mode of conceiving" *by* something, which something can, as Hoffding points out, exercise self-control to keep down elements not to the point and can strive to call up and collect everthing pertinent.

While this is said to be a " Herbartian book," it contains little upon the current Herbartian pedagogy, and is sparing in its use of the Herbartian terms. Its author was not, as one may say, numbered among the neo-Herbartians, but sprang from the parent stock somewhat earlier than these. This is a distinct advantage, for it gives a new point of view, yet one not inconsistent with the more familiar doctrines.

As a whole, the book is clearly written. But the analysis is painstaking even to the point of being, at times, cumbersome. Teutonic patience and thoroughness in setting forth a matter in due order abound. Nothing is hid that could, even at pains to all concerned, be revealed. There are pages of analysis that might be replaced to advantage by a single anecdote or by a terse statement. The style of the author-translator is in general of a kind that economizes the attention of the reader. At times, however, it lacks variety and finish. The insertion in the text of topical headings in bold-faced type would add greatly to the ease of reading.

As it stands, *Thought and memory* is a timely and, for the most part, pertinent contribution to the cause of sound teaching. It is well worthy of all the further enrichment, adaptation, and polish that can be given to it.

WALTER L. HERVEY

TEACHERS COLLEGE,
NEW YORK

NOTES ON NEW BOOKS

Mention of books in this place does not preclude extended critical notice hereafter

Mr. Bardeen has issued a handsome edition of Grasby's *Teaching in three continents*, an important book that was noticed fully in this REVIEW at the time of its first appearance (Syracuse, N. Y.: C. W. Bardeen, 1895. 344 p. $1.50).——It is a matter for surprise, in view of the demands of modern scientific method, that the ordinary manuals of logic are so largely given over to the deductive system. Ballantine's *Inductive logic* is a partially successful attempt to rectify this defect. It is based too largely on Mill, and does not take sufficient account of the work of Sigwart, Bradley, Jevons, and Venn to be a thoroughly satisfactory book (Boston: Ginn & Co., 1896. 174 p. 90 cents).——*German songs of today*, edited by Professor Tille of the University of Glasgow, is a very excellent piece of work. It is an effort "to bring together characteristic illustrations of the various intellectual movements that have made themselves felt in German lyric poetry during the last twenty-five years" (New York: Macmillan & Co., 1896. 184 p. $1.00).——Mr. Jules Marcou, the last survivor of the small band of European naturalists who came to America with Agassiz, has prepared a *Life, letters, and works of Agassiz*, a complement to the admirable *Life* by Mrs. Agassiz that was published years ago (New York: Macmillan & Co., 1896. 2 vols. 302, 318 pp. $4.00).——That modern physical science is based upon the doctrine of the conservation of energy has been practically ignored hitherto in the making of elementary text-books on chemistry. Dr. Paul C. Freer of the University of Michigan has broken away from the old lines, and in the *Elements of chemistry* (Boston: Allyn & Bacon. 284 p. $1.00) we find a treatment of the fundamental principles which is as refreshing as it is clear and concise. There may not be enough chemical knowledge to please some who do not propose to continue the work beyond the present volume, but, as an introduction to a higher course, it is of rare value.——A work on *Practical inorganic chemistry*, by G. S. Turpin (New York; Macmillan & Co. 158 p. 60 cents), is well adapted for use in connection with any good elementary lecture course in general chemistry. The range of the experiments is scarcely wide enough to serve when no other laboratory work is to be given. Freer confines his experiments largely to the quantitative type, and we find the same disposition in this volume, but in a much less degree. This departure is commendable. ——The *Chemists' compendium* (New York: Macmillan & Co. 240 p. $1.00) is a reference manual designed for pharmacists, not chemists, in the daily exercise of their craft. It contains a wide range of topics, many of which are not closely related.——Thomas H. MacBride of the State University of Iowa, in *Lessons in elementary botany* (Boston: Allyn & Bacon. 233 p. 60 cents), adopts the method of study which involves the consideration of the "more striking phases" of the "more familiar forms," first "leaving the more recondite problems for later inquiry." The author wisely insists upon individual work in observing and drawing.

IX

EDITORIAL

The associates of Dr. Poland in the conduct of the EDUCATIONAL REVIEW may be permitted to congratulate the city of New York upon having secured his acceptance of the position of assistant superintendent of schools in succession to the late Dr. Calkins. By this transfer of Dr. Poland's activities the State of New Jersey loses a State superintendent of the highest order of efficiency, and one whose continuance in office through any and all political changes was assured. Were it not for the impending reforms in the administration of the New York schools, and for the great opportunities for usefulness and distinction that will follow the creation of the Greater New York, Dr. Poland would have suffered a distinct loss of dignity and influence in entering upon this new field of work. But with Tammany Hall and the school "ring" on the point of being driven out of the schools by an aroused and indignant people, a new era is dawning. The public school system of that great metropolis, with its three and a half million of inhabitants, will be the greatest single influence in America for the education and uplifting of the children of all the people. For years the New York schools have been maintained more or less as charity schools for one class of the population only, and not as public or common schools for the whole population. It is now proposed to insist upon making them so good that no parent can afford *not* to send his children to them. That Dr. Poland's abilities and energies will be devoted to bringing about this new order of things is the conviction of all who know him.

So far as Superintendent Jones's planning and presiding could make it so, the Jacksonville meeting of the Department of Superintendence was a pronounced success. But the general feeling with which many superintendents came away from the meeting was one of disappointment. In the first place, the meeting should not have been held at Jacksonville at all, which is as unattractive as only a Southern town can be, but at St. Augustine, which abounds in historical interest and numbers among its hotels some of the most luxurious and inviting in the country. In the second place, the programme was greatly overloaded, the resolutions regarding this matter that were adopted at the Richmond meeting, on motion of Mr. Bright of Illinois, being entirely overlooked. In the third place, and most vital of all, the really live movements with which progressive and scholarly superintendents are concerning themselves found little or no expression in the papers and discussions. There was a great deal of traveling over old ground, and in one detail at least, a distinct attempt to reproduce the Cleveland debate on the Report of the Committee of Fifteen. Naturally this was a flat failure, for the spontaneity and originality that marked the discussion of a year ago were incapable of reproduction; and besides, the impression has become very general that the continued debate is a mere logomachy, for the participants are continually illustrating by their lives and practices that they occupy common ground and have in view precisely the same ends. Omitting Dr. Harris, who is always listened to with affection and respect, the honors of the meeting were easily borne off by Superintendent Gilbert of St. Paul, President De Garmo of Swarthmore, Superintendent Soldan of St. Louis, Professor Alderman of North Carolina, and Inspector Hughes of Toronto. Dr. Curry's oratory was followed with rapt attention, and Dr. White was very effective in his brief tribute to the late Dr. Calkins.

The new president of the Department is Mr. Gilbert of St. Paul, and the meeting for 1897 will probably be held at Indianapolis.

Our account of the struggle for school reform in the city of New York ended last month with a statement as to the origin and plans of the Citizens' Committee of One Hundred on Public School Reform, of which ex-Mayor Abram S. Hewitt is chairman. At that time, too, the Strauss or Tammany Hall bill, for the perpetuation and extension of the ward-trustee system of school government, was in the hands of the Senate Committee on Cities.

On February 4 the reform movement formally joined issue with the "ring," and on that day Senator Pavey of New York introduced in the Senate the following short bill, which brought the principle involved in the struggle clearly before the public and the legislature:

AN ACT

IN RELATION TO THE COMMON SCHOOLS AND PUBLIC EDUCATION IN THE CITY OF NEW YORK

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. From and after the thirtieth day of June, eighteen hundred and ninety-six, the term of office of the present trustees of common schools in and for the several wards of the city of New York shall end, and their official functions cease, and said office be abolished, and all power, authority, duties and jurisdiction then vested in said trustees shall devolve upon the commissioners of common schools then constituting the board of education in said city and their successors in office, and said board shall perform such duties or cause them to be performed by the city superintendent of schools and his assistants and by the superintendent of school buildings and his assistants, in accordance with rules and regulations to be prescribed by said board; but nothing in this act shall affect the tenure or compensation of any principal or teacher now employed in the public school system of the city of New York.

§ 2. The said board of education is hereby authorized to appoint such additional assistants to the city superintendent of schools and to the superintendent of school buildings as may be necessary to enable said board to perform the duties devolving upon it under the provisions of this act.

§ 3. All acts or parts of acts inconsistent with this act are hereby repealed.

§ 4. This act shall take effect immediately.

This Pavey bill, by its brevity and directness, appealed at once to the public and the press. The *Tribune*, *Times*, *World*, *Journal*, *Evening Post*, *Mail and Express*, *Commercial Advertiser*, *Harper's Weekly*, and *Critic* gave it prompt and continuous support. No newspaper opposed it. The City Club, the Citizens' Committee, the Council of Confederated Good Government Clubs, Good Government Club E (which has devoted itself specially to the study of school matters), the Public Education Association, and numerous other representative bodies indorsed the Pavey bill enthusiastically. Strauss and his allies endeavored to break the force of the popular movement for the abolition of the local trustees by circulating the utterly false story that sixty assistant superintendents at a salary of $4000 a year each would be needed to do the work of the trustees. This preposterous and silly untruth was laughed out of court by the public and the press, after having deceived no one but the president of the board of education.

On February 18 and 25, the Senate Committee having charge of the Strauss and Pavey bills gave public hearings on the whole subject. For the Strauss bill there appeared only members of one faction in the Board of Education and three grammar-school principals. They contented themselves with advancing the usual arguments: (1) that the trustees keep the schools "close to the people," whatever that may mean, and (2) that trained educators cannot be as well trusted to examine, appoint, and supervise principals and teachers as ignorant laymen or busy men of affairs. Being challenged to cite any single educator of reputation or any one student of school administration who indorsed their claims, they fell back upon the broad and somewhat dangerous generalizations that trained educators are "theorists" and "idealists," and that the New York school system "towers like a beacon light up over the whole educational world." We hope that our readers in the West will note this interesting (if true) statement.

On the other side and for the Pavey bill appeared a strong delegation of school officials, including members of the Board of Education, a dozen or more of the ward trustees themselves, and many of the women inspectors of schools. With them were present a number of representative tax-payers and citizens, and also authorized representatives of all the organizations named above as having indorsed the Pavey bill. The speeches on this side were marked by thorough and detailed knowledge of the subject, excellent temper, and a high plane of argument. It was universally admitted that the "theorists," or people who see, and "idealists," or people who have ideas, swept everything before them. Their arguments were unanswered and unanswerable.

On March 3, on motion of Senator Lexow, the Senate Committee on Cities referred the whole matter for consideration to a subcommittee consisting of Senators Stranahan, Lexow, White, and Ahearn. Two days later it was announced that a majority of this subcommittee had agreed upon a substitute bill, Senator Ahearn, who is a Tammany man, dissenting. This substitute bill, for which Senators Stranahan, Lexow, and White are entitled to the credit, is now before the Senate, having been favorably reported by the Committee on Cities, and its enactment into law is confidently expected. Should this expectation be realized, the old order will change and give place to the new on July 1 next. The New York schools will then be redeemed from the politicians and their parasites and restored to the people whose schools they are.

The substitute, or Stranahan, bill is based upon the Pavey bill, and is by all odds the best measure, dealing with the New York schools, that has yet been presented to the legislature.

The bill provides:

1. That the central and final authority over the schools shall be vested in a board of education, appointed by the mayor. This board consists of twenty-one members, serving for terms of three years. The terms of one-third of the members expire each year. Members of the board of education receive no compensation.

2. The ward trustees are abolished, and the very name ceases to exist.

3. The board of education is to appoint a city superintendent and as many assistants as may be necessary, for terms of six years each. There are now eleven assistant superintendents. The present salaries are $7500 for the superintendent and $4000 for each of the assistant superintendents.

4. The superintendent and his assistants are to constitute the board of school superintendents. This board is to inform and advise the board of education on all matters affecting the course of study and the educational administration generally, and, under rules to be prescribed by the board of education, is to promote and transfer teachers, to classify, promote and transfer pupils, and to have the care and oversight of the schools. Examinations for admission to the eligible list for appointment as principals and teachers are to be held by this board, and from the eligible lists nominations of principals and teachers are to be made by the board of school superintendents to the board of education, with whom the final power of appointment rests.

5. The board of education is to divide the city into at least fifteen school inspection districts, approximately equal in population. For each of these districts the mayor is to appoint five inspectors of schools to hold office for five-year terms. Inspectors receive no compensation. Their duties are of a visitorial character, they report quarterly to the board of education upon the condition of the schools and scholars and the enforcement of the school laws in their respective districts.

6. The board of school superintendents have the right to remove any principal or teacher for incompetence, by a majority vote, in case the removal is approved by a majority of the inspectors in the district. Any principal or teacher so removed may appeal to the board of education. which board may, by majority vote, reinstate the principal or teacher. If the district inspectors alone or the board of school superintendents alone

recommend the removal of a principal or teacher, then a three-fourths vote of the board of education is necessary to effect the removal.

7. The purely executive duties of the board of education that relate to the erection and care of buildings and the supervision of janitors are devolved upon the superintendent of buildings and his assistants.

These seven provisions are the essence of the new bill. Except in so far as they abolish the ward-trustees, which is the Pavey bill, they are taken substantially from the Committee of Seventy's bill of last year. As soon as the details of this measure were made public, there was a terrible uproar among the ward trustees and their followers in the ranks of the principals and teachers. The school "machine" was set at work, and preparations were made for an imposing demonstration against the reform bill. Petitions against it were assiduously circulated in the schools, and scores of teachers were pressed or frightened into signing them. On March 18 a special hearing was arranged for by the Senate Committee on Cities, in order that this manufactured opposition might display itself. It did so, with results that were both ludicrous and pitiful. The various speakers who addressed the committee were all carefully coached by their leaders, and supported by an enthusiastic *claque*. For more than three hours they stormed and raved in the Senate Chamber. Having no vestige of argument, they resorted to abuse, misrepresentation, and downright falsehood. The newspapers concealed their shame so far as was possible, but enough was reported to make it plain that the whole performance was a thoroughly discreditable one. The members of the Senate committee listened courteously to their irrelevancies, and by occasional questions exposed both the ignorance and audacity of the speakers. President Low, Mr. James B. Reynolds, Mrs. Schuyler Van Rensselaer, and Mrs. Willard Parker spoke briefly but forcibly in reply, and the hearing closed; the prospects of the passage of the bill having been immensely improved thereby.

On March 20 Governor Morton, who has made a careful study of the whole subject, sent a special message to the Legislature, outlining the situation and strongly urging the passage of the reform bill. This timely and statesmanlike act has been applauded from one end of the State to the other, and the days of the school "ring," with their narrowness, their bigotry, and their obscurantism, are surely numbered. It is hoped that by April 15 the new law will be upon the statute-book.

A very significant fact is the abyssmal silence that has been preserved on this subject of New York city school reform by the "fly-by-night" portion of the educational press. The intelligence and patriotism of the greatest city in America have been wrestling for months with the barbaric and uncivilized elements in the community for the control of the public-school system; the daily press teemed with accounts of the struggle and with contributions to it: yet the "fly-by-nights" noticed it not. Not knowing what the issue of the conflict will be, but believing in their souls that the Tammany politicians and the school "ringsters" are too firmly intrenched to be driven out, they doubtless think that their circulation and advertising pages will be more assisted by discretion than by valor. This is one of several reasons why intelligent people regard the "fly-by-nights" with utter contempt.

The valuable reports on primary education in the United States and on secondary and higher education here, prepared after visits to the Chicago Exposition in 1893 by Mons. B. Buisson and Mons. G. Compayré respectively, have been published in three handsome volumes by the French government. They will shortly be reviewed at length in the EDUCATIONAL REVIEW.

Messrs. Appleton have just announced a very important undertaking in the form of a comprehensive series of books to connect the home with the school. The series will be planned to join the school to the library, public or private, in such a way that instructive and stimulating courses of reading may be carried on under the direction of the teacher. The scope of the series includes books in literature, history and geography, natural science, and ethics, the whole to be edited by Dr. W. T. Harris.

Beginning in August next Professor Earl Barnes of Stanford University will issue ten numbers of a journal to be called

Studies in Education. The object of the journal will be to bring before students of education some of the results of the work that has gone on during the past five years under the direction of Professor Barnes.

* * *

There were 114,439 fewer children being educated in French primary schools than there were five years ago, according to the last report of the Minister of Public Instruction, while in the five years the number of pupils in the schools of the Christian Brothers nearly doubled. The Brothers are now teaching 1,365,886 children, with no aid from the Government.

* * *

Dr. Welch's admirable and instructive address on the "Evolution of modern scientific laboratories," delivered at the opening of the William Pepper laboratory of clinical medicine, in Philadelphia, on December 4 last, has just been reprinted, in pamphlet form, from the *Johns Hopkins Hospital Bulletin.*

* * *

The annual report of State Superintendent Schaeffer of Pennsylvania is as able as it is concise. Pennsylvania is now expending annually five and a half million dollars for the public schools of the State, and the local communities are raising twice as much more. The appropriation made to the State College in 1895 was two hundred and twelve thousand dollars, and that to the University of Pennsylvania, in aid of post-graduate work, was two hundred thousand dollars. An important step, long looked forward to, was the legislative creation of a College and University Council, and the imposition of a property qualification as a condition for chartering new institutions with degree-conferring powers. This will put a step to the indefinite multiplication of "colleges" that are in reality poorly equipped academies.

* * *

The biennial report of State Superintendent Sabin of Iowa is an exhaustive document of unusual interest. Iowa is steadily pushing forward and means to have the township system and more normal schools in the near future.

On March 18 the New York Board of Education unanimously elected Principal Thomas S. O'Brien to fill one of the vacancies among the assistant superintendents. This is a capital choice. Mr. O'Brien is a brilliant scholar and a thoroughly equipped school man, as well as a gentleman of great personal charm. He will add great strength to what will soon be a most important administrative board.

Mr. Nicholas Murray Butler, who was unanimously chosen by the board of directors of the National Educational Association as a trustee to succeed the late Dr. Calkins, has declined to serve, and the vacancy thus created will be filled when the directors meet at Buffalo. The trustees have chosen Dr. H. S. Tarbell of Providence as chairman.

The re-election of Superintendent Reinhart of Paterson, N. J., is a deserved compliment to an able and faithful school officer.

It has been brought to the attention of the editor of the EDUCATIONAL REVIEW that some reviews appearing in these pages, not wholly favorable to the books noticed, have been reprinted and circulated anonymously among the teachers of the country, presumably by publishers of rival books; and that persons feeling themselves aggrieved have supposed that in some way the REVIEW was responsible for such action. The authoritative and unbiased reviews of books that appear in this REVIEW are one of its chief titles to the confidence and support of publishing houses and of the public. In every case the sincerity and independence of these reviews are attested by the signature of the writer. The editor does not attempt to influence in any way their expressions of opinion, or the quotation of these expressions, outside of these pages. It may be proper to add, however, that the publishers of the REVIEW have been offered profitable prices for reprinting unfavorable book notices, presumably to be distributed as circulars, and that in every case such offers have been declined.

The editor of the REVIEW is in possession of abundant evidence that both publishers and the public highly appreciate having an opportunity to see new educational publications fairly and frankly criticised and discussed.

EDUCATIONAL REVIEW

MAY, 1896

The fifth annual meeting of the Harvard Teachers Association was held at the University on Saturday, March 7, 1896. The papers and discussions dealt with various phases of the subject named below. The first address was by President Eliot of Harvard University, who spoke as follows:

I

A WIDER RANGE OF ELECTIVES IN COLLEGE ADMISSION REQUIREMENTS

As usual, it is necessary to define the subject a little. "A wider range of electives in college admission requirements" —what field are we thinking of when we state this subject? If we mean the United States, the range of electives is already very large. Take, for example, the requirements for admission to the Leland Stanford University; twenty subjects are named of very different character and extent; and the candidate may present any ten out of the twenty. Botany counts just as much as Latin. There is a wide range of options at admission to the University of Michigan, with its numerous courses leading to numerous degrees; that is, there is a wide range of subjects permissible to a candidate who is thinking of presenting himself for some one of its many degrees. If we look nearer home, we find in such a conservative institution as Dartmouth College that there are three different degrees offered, with three different assortments of admission requirements and three different courses within the college. I noticed that at the last Commencement there were forty-one degrees of the old-fashioned sort and twenty-seven degrees of the newer sorts given by Dartmouth College. Here, in Harvard, we have had for many years a considerable range of electives in the admission examination, particularly in what we call the advanced requirements. We, therefore, need to limit our subject a little, by saying that we are thinking of a wider range of admission electives in the Eastern and Middle State Colleges, the range of electives further West being already large in many cases.

Before 1870, in New England and the Middle States, one might say that the elements of Latin, Greek, and mathematics covered the entire range of admission subjects. To be sure, there was an additional subject called ancient history, but it held a very small place among the requirements for admission and in the school programmes, many excellent schools preparing their pupils to meet that requirement in five or six weeks, just before the examination for admission to college. English has now won a good place in school programmes and in college requirements for admission. What a marvel it is that it never had any place at all down to 1873, when it first appeared in the Harvard requirements! To-day, we recognize that French and German have acquired standing-room among admission requirements. At Harvard, modern languages are not admitted instead of ancient languages, but at such a conservative institution as Williams, and also at Tufts College, the modern languages may be substituted for Greek. Science has thus far obtained but a feeble hold. We think the requirements in science are more substantial at Harvard than anywhere else. We have been much encouraged by the rapid progress of the schools in meeting the Harvard requirements in physics; for already a large majority of candidates offer the experimental course in physics and not the book course. Still, when President Low was organizing six conferences on the requirements for admission to colleges in New England and the Middle States, he did not think it worth while to have a seventh conference on science; because the institutions within this territory give so little attention to science as a requirement for admission, and are so divided as to the nature of the requirement.

It seems as if the time had come when we should recognize

—if not among the prescribed subjects, at least among the electives open to candidates who present themselves for admission to college—history, science, and the modern languages, and should seek a definition of science as a requirement for admission. I regret very much that science was omitted from the recent conferences in New York, because it is one of the secondary school subjects that most need to be studied. A rational course in science—rational for the schools, because it affords a substantial training in observing, recording, and reasoning, and rational for the colleges, because it affords sound preparation for further study of science during the years of college life—is a great desideratum.

Let me say, in the first place, what I have often said before, that I, for one, have no interest whatever in new subjects for admission to college which are not just as substantial and difficult as the old ones. That a subject should be used as an elective in the admission examinations to colleges and universities because it is easier, seems to me to be wholly bad. That is my objection to many of the requirements for admission at the Western institutions. In the University of Michigan, for example, they use subjects as admission requirements which are treated in the schools in a manner distinctly inferior to the treatment of the old subjects, and they admit to college, on these comparatively new subjects, men and women who have had a training inferior to that which those who present the old subjects have received. That method, I am sure, has no interest for any of us. What we want are new optional subjects which are just as good for training and discipline as the old.

What prospect is there that we can get such new elective requirements for admission? It seems to me that the teaching of modern languages in many of the schools represented here has now reached such a stage that we may fairly say that a training in French, or German, or both, can be given which is just as substantial, strong, and useful a training as any other that is given in the same period. Can we say that of any other subject now proposed as an elective requirement? I am afraid not. Yet there is good hope for history. Within a few months a great deal of progress has been made in bringing teachers of schools and college professors into harmony with regard to the claims and uses of that subject. Here, at Harvard, we have had a committee on requirements for admission at work all the year, which has paid special attention to history, and has agreed on a judicious school course in that subject; in the New York conference on history an agreement was reached without much difficulty in regard to a thorough four years' school course. I believe, therefore, that there is good hope that a substantial requirement in history can be agreed upon. In regard to science, the schools and colleges are farther from that result; but some progress of an instructive kind has been made. At Harvard, we feel that the true nature of a scientific requirement for admission has been already determined. It should include laboratory practice as well as lectures and recitations, and the original notebook of the candidate should be presented at the college or scientific school as evidence of the nature of the instruction which the candidate has received at school. We also think we have learned something useful with regard to the kind of evidence which may well come from the master of a school concerning his pupil's studies and attainments. We have found that the statements which we require from teachers as to the training of their pupils in physics have been a useful kind of evidence, and we are inclined to believe that evidence of the same sort might be advantageously used in other departments.

We have a good hope, then, that modern languages, history, and science may be added to the present requirements for admission at those institutions where but slight additions have thus far been made to the old requirements in Latin, Greek, and mathematics; and that these new subjects may be further extended and developed at institutions where some choice among equivalent subjects is already permitted.

Making this supposition, what is the first difficulty which presents itself with regard to the manner of using these new requirements? The first difficulty is to determine the proper weight of each requirement, new or old—or in other words the coefficient of each requirement in all the various combinations into which it may enter. How shall we determine what weight shall be attributed to each subject in comparison with every other subject? In any broad elective system no individual can present all the subjects. He must present a part—say two-thirds or three-fifths—of the subjects. Each subject, therefore, should have a valuation, or coefficient, attached to it. How much shall each subject count in the total of an individual candidate? Our method of valuing admission subjects at Harvard is, I believe, as careful as any; but we do not pretend to have an accurate method of attributing a proper weight to each subject. We have two-hour subjects and one-hour subjects; that is, to some subjects we give twice as much time at the examination as to others, and twice as much weight in determining the question of admission or rejection. Even this rough valuation we might find it hard to justify. What should be the grounds of a just valuation of all the subjects that can be presented at admission examinations which include numerous options?

That question introduces us to a difficult inquiry. It is of course not an intelligent method to attribute a value to each subject in accordance with the time devoted to the examination in that subject. What clew have we toward a better mode of determining the value which ought to be attributed to each of these numerous electives, when the young men cannot present all the permitted subjects, and hardly three-fifths of them, indeed, if the range is adequately widened? I believe that the best criterion for determining the value of each subject is the time devoted to that subject in schools which have an intelligent programme of studies. The Committee of Ten examined the number of subjects used in about two hundred of the best secondary schools in this country, and the time-allotments for the several subjects. They found a great variety of practice as to both selection of subjects and time-allotments. You can hardly say that there is an accepted time-allotment in these secondary schools for any subject—not even for the old traditional subjects. The time-allotments differ widely in different parts of the country, and even in different schools in the same part of the country. If, then, we are to determine by school time-allotments the valuations of the different subjects, prescribed and elective, which may enter into admission examinations, we must have some sort of standard programmes for secondary schools. At present I know no programmes which can answer that purpose except the provisional programmes of the Committee of Ten. They may fairly be said to be the best studied programmes now before the country, and to represent the largest amount of professional consent, simply because they are the result of the work, first of ninety school and college teachers divided into nine different conferences by subject, and secondly, of ten representative teachers combining and revising the work of the conferences with careful reference to the present condition of American schools. These programmes seem to me, therefore, to afford the most available means of determining the time-allotment for each subject. Since we really cannot study the use of a wider range of electives without examining this question of the value to be attributed to each elective, you will excuse me if I go into a little detail with regard to the time-allotment, and the consequent value to be attributed to each subject.

The selection of subjects made by the Committee of Ten is, I believe, fairly representative of good secondary schools in the United States. There are seventeen of these subjects. Now there is not as much difference in the time-allotment between these subjects as one who approached the subject without a pretty wide survey of the field would imagine. Latin has eighteen-eightieths of the time on these programmes. That is, a student who takes all the Latin he can take on that programme of the Committee of Ten which has the most Latin will devote to it eighteen-eightieths of the four years. Greek has a smaller amount of time; but if a student devotes to that subject all the time possible on the classical programme of the Committee of Ten, including the remark in the note, he will give fourteen-eightieths of his four years to Greek. English has from eleven to seventeen-eightieths on the different programmes of the Committee of Ten. The largest amount of time devoted to it on any one programme is seventeen-eightieths, within one-eightieth of the time devoted to Latin. Algebra, geometry, and trigonometry have together fourteen-eightieths, which is the same proportion which Greek has. German and French have from eleven-eightieths to eighteen-eightieths each; that is, the allotment to French or German for a youth who takes all the French he can take, or all the German he can take, is just the same as that to Latin. History does not fare quite so well; but still history has from nine-eightieths to fourteen-eightieths, being about the allotment to Greek. Natural history subjects occur under the heads of physical geography, botany, zoölogy, and geology; but under the programmes of the Committee of Ten a pupil cannot take both botany and zoölogy, because these two subjects come at the same hours. An individual pupil can devote to this group only nine-eightieths of his time for four years, an allotment which matches the minimum in history. Lastly, for physics, chemistry, astronomy, and meteorology the total is the same as for history and for natural history, viz., nine-eightieths. That is the entire set of subjects. You see that the range of time-allotments is not so great as one would imagine from a cursory examination of the programmes. You may say that the time-allotments range from nine to eighteen-eightieths, it being understood that the natural-history subjects and the physical-science subjects are grouped. It is, therefore, not hopeless by any means to attempt to make a just valuation of each of these subjects and groups of subjects based upon time-allotment. The suggestion of some other possible basis for a proper valuation would be very useful; for a sound and uniform method of valuing the different subjects which can be presented at admission examinations will be of great importance, if the range of elective subjects is to be widened. It is absurd, I think, to give the same weight to algebra, which has six-eightieths of the time of a pupil in four years, and to Latin, which has eighteen-eightieths of the same period of four years. Those two subjects should not count alike, or even in the ratio of one to two. Neither should botany with three-eightieths count like English with eighteen-eightieths of the pupil's time in four years. In widening the range of elective requirements for admission, we must avoid that sort of inaccuracy and injustice.

In general, with regard to the treatment of electives, in college or before college, this difficulty of determining relative values is a serious one, which has to be studied carefully, in order to preserve a just value and significance for the degree which is the common certificate at the close of individual courses, made up—we may say—of infinitely varied materials. In the more limited problem of dealing with electives at admission examinations the same difficulty will present itself, unless we have an intelligent mode of assigning a value to each subject.

I turn now to another serious difficulty which teachers know to exist in regard to new subjects at admission examinations, and indeed in regard to extensions of old subjects; I refer to the difficulty of securing uniform enforcement of the requirements which stand on paper. New subjects present more difficulties than old subjects in this respect, because in Latin, Greek, and elementary mathematics generations of teachers, both in school and in college, have been brought up to use the existing methods and materials—methods and materials which are better studied and defined than they are in the new subjects, and there is consequently a better common standard of work. A good deal has been done in New England during the last twenty years toward a uniform standard of enforcement of Latin and Greek requirements; but I think we shall all recognize the fact that to secure uniformity in the enforcement of new requirements will be more difficult than it has been in regard to the old. The isolated condition of colleges accounts in part for these difficulties. Twenty-five years ago the college faculties of New England were isolated to a most extraordinary degree. They hardly had any opportunities of co-operative intercourse; and within each of those faculties there were men who had for years controlled the admission papers in their own subjects. An isolated faculty holding little communion with any other faculty or with secondary schools, and within the faculty a single man writing for years the papers for admission examinations in a given subject, and probably examining the answers, and that single man at Dartmouth holding a different view from the corresponding man at Yale or Harvard—from such conditions there could not but result a great difficulty for school-teachers with regard to the standard of enforcement. By co-operative effort through such organizations as the New England Association of Colleges and Preparatory Schools, and by conference methods, some of these difficulties have been removed; but we shall not get a satisfactory use of a wider range of electives in admission requirements, until this particular difficulty, which results from isolation and lack of co-operation among colleges, has been successfully dealt with. A year ago last November, I made to the Association of Colleges in New England the suggestion that those colleges organize a board of examiners which should conduct all over the country admission examinations, the certified results of which should be good at all the New England colleges, and good anywhere else where the certificates of the board would be taken; and I detailed to the assembled representatives of the colleges the general method that could be followed. Several universities in this country have already acquired experience in conducting examinations at many points scattered over the United States; and they have proved that there is no mechanical difficulty at all in carrying out that method. There is enough experience now to demonstrate that examinations might be conducted at two or three hundred points in the United States by a common board of examiners, with the utmost ease, and on the whole a great saving of money to the candidates, even though a fee of five to ten dollars should be charged each candidate for the examination. I hardly think that the proposition was regarded by the Association of Colleges as one to be seriously taken up. At any rate, it was not taken up. Two or three times lately I have made similar suggestions at teachers' meetings. I offered the same suggestion at the recent meeting of the Schoolmasters' Association of New York City and the vicinity; and President Low said at the meeting that his first impression of the plan was favorable, and that he should be glad to enter into a conference on the subject. That is an encouraging sign, because President Low is a man of large influence, and singularly fitted to promote co-operative enterprises. I think, therefore, that we may be approaching the adoption of some such method. It need not be a New England method. Any group of six to twelve colleges or universities in this country could organize the scheme for the whole country, the board appointing the writers of question-papers and the readers of answer-papers. The preparation of each question-paper would be committed to a group of men, not to one man, and this group would be taken from various institutions. The board would see to the mechanical preparation of the papers, and to all administrative details; and they would fix the places where the examinations should be held. If six universities united to do this, they would not use their own men only; they would select their examiners from a large variety of colleges and scientific schools. The results would be tabulated, so as to exhibit the record of every individual, just as the result of the numerous examinations conducted by Oxford and Cambridge at many centers in England are tabulated. The result for each individual could be used at any college in the country for what it was worth in its eyes. The scheme would not interfere in the least with the individuality of a school or college. The examinations would cover a larger range of studies than most schools could afford to supply, but any school could decide to what subjects it would devote itself, and any college or university could say what subjects it would absolutely require, and what range of electives should be permitted to its candidates for admission. It would of course be true in the future, as in the past, that the different colleges and universities would make different demands. One college would demand more subjects than another; but subject by subject the requirements would be the same on paper, and they would be enforced by a common board. I speak of this matter now, because I feel sure that we cannot deal satisfactorily with a new set of requirements for admission, unless we imagine from the start that we are going to get a more uniform method of enforcement than has ever obtained in this country, even with regard to the old subjects. I think the teachers here present will see that this method would emancipate them from many annoyances, restrictions, and personal idiosyncracies which now seriously affect admission examinations.

These, then, are the three points that I wish to bring to your attention. First, that we may expect a large addition to the old-fashioned requirements for admission; next, that we need a mode of attaching to the new subjects, as to the old, a just valuation for admission purposes; and thirdly, that we shall need some method capable of securing tolerably uniform enforcement of the new and old requirements.

Let me add a few words with regard to the interests of the colleges and universities and of the country in this matter. We have seen of late years a large introduction of the elective system into secondary schools. Few teachers seem to appreciate the extent of this introduction. One reason for the common failure to appreciate this phenomenon is that the phrase "elective system" is not generally applied to secondary schools. Nevertheless, there actually exists in American secondary schools a very important amount of election of subjects, or groups of subjects. As a result of this election of subjects, or of groups of subjects, we find that young men and women are directed upon our colleges in different ways. That is, candidates for admission to colleges have really pursued different studies on different courses to a great degree while at school. The colleges have been trying to meet this condition of things by setting up different degrees to represent the next stage of education, ordinarily called the higher education; and we have therefore witnessed in this country a multiplication of degrees, all of which represent college or scientific school education. Some universities use the four degrees called Bachelor of Arts, Bachelor of Science, Bachelor of Philosophy, and Bachelor of Letters. Many universities and colleges use two or three of these titles. In this process a grave evil has come into both schools and colleges, because the new courses in the secondary schools have generally been inferior to the old or classical course; and moreover, the new degrees in the colleges and universities generally represent an inferior attainment on the part of the pupils, either at school, or within the college or university itself, or sometimes in both places. It is a great object to put an end to these inferior courses, both in schools and in colleges. We want all the variety which is now permitted, but we want it to become a variety of equal things, and not a variety which includes some high subjects and many low ones, some subjects long and faithfully pursued and others pursued only for a short time and in a superficial way. The courses now inferior should be leveled up. The several degrees now in use ought to be made to indicate tolerably equal attainments, though various—a standard of education, training, and discipline approximately uniform, although the elements of the training or discipline have been different.

CHARLES W. ELIOT

HARVARD UNIVERSITY,
CAMBRIDGE, MASS.

Mr. John Tetlow, Principal of the Girls' High and Latin Schools, Boston, Mass., opened the discussion on Mr. Eliot's address, as follows:

Without committing myself to what President Eliot has said in all its details, I desire to say that I am in sympathy with his opinions, and that I shall endeavor to maintain the same general thesis; but I shall, of course, approach the subject from a somewhat different point of view.

One of the functions of a college is to strengthen secondary education. That proposition, I take it, needs no argument in this presence. A college which has organized courses of study for the benefit not only of intending teachers included within its membership, but also of teachers in service in the community to which it geographically belongs; a college whose president has, from his entrance on official life, deemed it a part of his duty to co-operate with the teachers of secondary schools—such a college, I take it, is already committed to the proposition that I have announced. I have heard it asserted, both publicly and privately, by officers of this university that the teaching of the subject of geometry in secondary schools throughout the country has been materially modified by the character of the entrance examination to Harvard College. It is not necessary to admit that claim in all its fullness, but there is enough of truth in it to warrant me in referring to it in support of the proposition that I have announced—that one of the important functions of a college is the improvement, the strengthening, of secondary education. Accordingly, I shall assume the truth of that proposition in what I have to say.

When, therefore, a college proceeds to fix requirements for admission to its courses, it should not ignore the interests of secondary schools. On the contrary, it should be careful to guard and promote those interests. This country is not France, and we have not educationally any more than we have politically what Mr. Fiske would call a highly centralized despotism. We have a local option republic. There is no educational autocrat in this country who can take out his watch at a given moment and say that at this time, from the Atlantic to the Pacific, all the children are studying arithmetic in the grammar schools. We do not believe in that method of government, either civil or educational.

If such a subject as ballot reform or municipal government is under consideration, and improved methods have gained a foothold in one part of the country, we study the improved methods, and if we find them applicable to our own situation, we adopt them. That, too, is the method we take in education; and, if the American boy of sixteen does not know as much as the French boy of sixteen, we are not disheartened. The advances that we make, we make voluntarily, because we are thoroughly satisfied that they rest on a solid foundation, and we go forward, not only with our minds convinced, but with our hearts happy; and we set as high a value on rational happiness as on intellectual knowledge in the formation of character.

When, then, the colleges are fixing their requirements for admission, what is the best way in which they can promote the interests of secondary education? I believe it is by accepting as a satisfactory preparation for collegiate work the attainment of a given stage of culture, the acquisition of a given amount of mental power through adequate training, rather than by demanding the possession of a prescribed amount of knowledge within a limited range of prescribed subjects.

Now, if these positions are sound, it seems to me that it follows that four years of effective training under a well-ordered course of study in a good secondary school ought to lead to college. That is only another way of saying that the so-called English high schools should be encouraged, through the requirements established for admission to college, to place themselves in closer relations than they have been able to do hitherto with the colleges. Some subjects included in the courses of study of these schools—for example, botany, zoölogy, drawing, general history—receive no recognition in the alternative requirements for admission to college. Other subjects, as chemistry and astronomy, receive only sporadic recognition. The result is that the fitting schools do not include these subjects in their courses of study, and that students who take them up in college show such a lamentable want of training in the right methods of pursuing them that these students have to be put by their professors on work appropriate to pupils of grammar-school age.

It is popularly said that the public English high school fits for life, while the classical preparatory school merely fits for college. Whatever may be said by way of breaking the force of this damaging antithesis, there is a truth in it; and the way for college officers to meet it is by making the school that fits for life fit also for college.

I attended, a little more than a fortnight ago, a preliminary meeting of the committee on high schools of the city of Boston, called to consider the question of a possible modification of the high-school course of study so that every high school—not merely the Latin schools and the central English high school, but every high school within the limits of Boston—might fit pupils for college. I found myself in the strange position of inviting delay. I say that was a strange position for me to occupy. Some of you know that I have been clamoring, in season and out of season, for several years for a more effective recognition in the requirements for admission to college of the so-called English high schools. But I invited delay for two or three reasons. I knew, in the first place, that the general subject of a new scheme of requirements for admission to college was under consideration at Harvard. I knew, too, that this meeting of the Harvard Teachers' Association had been called for the express purpose of considering the subject of the desirability of increasing the number of elective subjects open to candidates for admission to college. I knew also that President Low, as President Eliot has said, had recently called six conferences with a view to the establishment of uniform requirements in as many leading admission subjects, and that there was a prospect of satisfactory conclusions on the part of those conferences in the near future. All these indications pointed to a probable modification of the present condition of things, and so I felt that precipitate action would be unfortunate; that such action might result in the adoption of changes in our present course of study which would have to be reconsidered later.

I suppose, in view of the subject that is under discussion here to-day, there must be representatives of the different departments of instruction of Harvard College present, and I should like to say one or two things to them especially.

I believe the subject of botany was at one time one of the elective subjects accepted for admission to Harvard College;

and that it was abandoned because those who offered it were found to be expert in determining the names of flowers by the aid of an analytical key, the leaves of which they could turn as they turned the leaves of a dictionary, rather than trained to a knowledge of the structure and growth of plants through the use of the microscope and the dissecting knife. But, if we can infer anything from the claim that has been made in behalf of the influence exerted by the Harvard College entrance examination in geometry on the instruction given in the secondary schools of the country, or from the results of the method of examination adopted in physics, it seems to me that we are at liberty to conclude that the failure in the case of botany is chargeable solely to the department of botany. It ought to be entirely practicable for the authorities of Harvard College to establish such means of testing fitness for collegiate work in botany, zoölogy, general history, and so forth, as shall effectively exclude those who have not had the right sort of training. Why isn't it a part of the business of the different faculties of the university to extend downward their powerful and beneficent influence into the secondary schools, and to bring about reform there in the teaching of other subjects than physics and geometry?

Those of us who are interested in establishing a closer relation between the English high schools and the colleges are looking forward with great interest to the outcome of the discussion now in progress as to the establishment of a new scheme of requirements for admission to Harvard College. We are hoping for two or three very desirable results. We are hoping that admission to college without Greek will hereafter not be more difficult than admission with Greek. We are hoping that we can bring the English high schools into line with the colleges without mutilating our courses of study. The way to do this is indicated in the question which we are discussing to-day This question, therefore, has more than an academic interest; it is a practical, a vital question. I believe that on the right solution of it depends the next step forward, not only in secondary, but in collegiate education.

II

THE MODERN LANGUAGES AS AN ALTERNATIVE IN COLLEGE ADMISSION REQUIREMENTS

Concerning the subject of freedom of choice in college entrance requirements, my frame of mind is that of a recent convert; and, like most men whose creed has just undergone a radical change, I am eager to influence in every possible way—even by relating my own experience—the belief of those who still cling to error. Several years ago, as some of you are aware, I was a member of the Harvard faculty. At that time you could scarcely have found a more ardent advocate of a rigid Greek and Latin test to be applied to all. Although my own work was in the department of modern languages, it seemed to me that a thorough training in the classics was the only satisfactory preparation for college study in any field. I thought, to be sure, that a fair knowledge of both French and German should be demanded also, so that the kindergarten branches of the college might be abolished; but I was entirely opposed to the substitution of the living for the ancient tongues.

When I look back upon my unregenerate state, and try to analyze the motives that then actuated me, I find that I was governed principally by two considerations. The first was a theoretical, impersonal one—a conviction that the proper function of a college is the higher development of a few choice minds that have all been subjected, for many years, to a particular kind of discipline, and, when weighed in one and the same balance, have not been found wanting. According to this view, all youths whose training has been different in amount or in kind should be excluded, as their presence may interfere with the rapid progress of the elect. The other consideration, which, though never plainly formulated, was perhaps the weightier, must be called a selfish one: it was a feeling that the admission of students ought to be regulated in such a way as to reduce to a minimum the difficulty of subsequent instruction; when all the young men who come to us have studied exactly the same things, and have learned them well, we have a solid and even foundation on which to build; but if the antecedents of our pupils have been different, if their tastes, needs, and objects are varied, our task becomes complicated and fatiguing.

This latter argument needs only to be boldly faced and clearly expressed: its unworthiness then becomes immediately apparent; and I think the college men are few indeed who would consciously allow themselves to be moved by it. The first consideration, however—the belief that the college should be reserved for the chosen few—is in itself neither ignoble nor ridiculous, and merits serious discussion. You will note that the appropriateness of this argument depends upon the assumed superiority of the classical course to any other form of secondary training. For the present, let us admit this superiority; I shall return to that point later on.

Now, if my ideal of college work has changed, it is not because my former conception of it has become less attractive to me; the aspect of the things I see is not altered, but I see more things, now that I am obliged to labor in a broader field than the campus. I was once like the little peas in the pod, who said that all the world was green; green is still a beautiful color, but I have discovered that there are others. We are all of us—professors as well as the rest—first of all men and citizens, and neither our vision nor our usefulness should be restricted to the college limits. This association is composed of persons devoted to the cause of education: may we not, then, fitly ask ourselves what education is, why it is desirable, and whether we are really doing the most important things?

Education serves to increase the comfort of the people as a whole and the mental resources of the individual; but I think I am safe in stating that its prime object, in a democracy, is the promotion of good citizenship. You will probably agree with me when I say that good citizenship needs promoting. Our century has ventured upon tremendous experiments in the line of government, and, however disappointing the consequences have been, we know that there is no such thing as going back. The century to come must grapple with the problem of training the masses to use the supreme authority that has prematurely come into their possession. And this is the mission of education. "But," I should have exclaimed in my pea-pod days, "this is a task for the public schools, not for the colleges!" It is a task for all. The schools have been trying for many years to inculcate the necessary lessons—and with what result? Evidently their unaided efforts are not sufficient; a larger share of the work must be done by the colleges.

There are two ways in which the colleges can make their influence felt—indirectly, by helping the schools, and directly, by widening the scope of their own activity. Were I addressing a different audience, I might find it necessary to defend the proposition that the spread of college ideals and college modes of thought are beneficial to a democracy; before a Harvard association, I think I need no arguments to sustain the statement that these are the very things our country most wants. The more our future voters and political leaders are subjected to the kind of discipline that our universities provide, the higher will be the grade of competence among electors and elected. It so happens, moreover, that the very measures best calculated immediately to extend the college influence in the commonwealth are the ones most likely to prove beneficial to the schools. Hence we are not obliged to treat separately the direct and the indirect methods of communication with the public, but may consider them together; and when all has been said, it may appear also that the university, in generously adapting itself to the urgent needs of popular education, will be pursuing the best course for its own welfare.

Hitherto, most of our great colleges and universities have been soaring, balloon-like, far above the activities and interests of the dwellers on earth; unheeded by the people, and heedless (save in a speculative way) of the life below them, they have formed little worlds apart. To enter into one of these communities, a child must be devoted, almost from the cradle, to the pursuit of an arduous course of study, which, to the average parent, appears to serve no other purpose than that of "fitting for college." Once graduated, the young man associates with others of his kind, and is but little inclined to take an active part in public affairs.

At present, great efforts are being made to remedy the evil; and in this reform, it seems to me, we can all take some share. What we need in all our States is a continuous course, extending from the kindergarten to the graduate department, or university proper, and the professional school. This programme need not and should not be the same everywhere: provision should be made for all sorts of local and individual differences. The important thing is that there shall be no break, no convenient place to leave off, no difficult transition, no point at which the scholar who wishes to proceed further must turn about and start afresh from the spot he reached years before.

When we have such a course as this, every child will feel that if he can give to education the necessary time and labor, the highest instruction may be his; the college will be regarded no longer as the idling-ground of the privileged few, but as the natural sequel to earnest and well-directed effort in the lower grades. Then, I am sure, we shall see a great and ever-growing body of students coming from the laboring classes; and colleges, brought into natural connection with other popular institutions, will play a more and more important part in our national life. What an incentive to intelligent industry in every department of education! And what a gain to the cause of enlightened citizenship and good government! At the prospect of such advantages as these, should not every specialist be willing to disregard ancient prejudice and personal preference concerning the "best" course of preparatory study, and join with the representatives of all other branches in opening as many and as broad avenues as can be made from the secondary school to the university? The work needs the co-operation of all; and those who refuse to do their part must expect to meet the charge of hostility or indifference to progress.

I would not be understood as advocating any lowering of college standards. The entrance requirements of our highest institutions of learning do not seem to me excessive in point of quantity. The demand is for an adaptation of the quality of the conditions to the necessities of modern life, and for a determined effort, on the part of the schools, to meet them. On the one hand, the college requirements should offer such a variety of combinations that every graduate of a good high school should find one that suited his case; and, on the other, the high schools must so raise their standard and enrich their curriculum as to leave no gap between themselves and the college.

The special needs of various parts of the country are obviously very different: in some regions nearly the whole scheme of public instruction is still to be created; in others the chief need is a more careful valuation of the several studies pursued; in others yet the principal want is adjustment, the fitting of one grade to another. This latter state of affairs is the one that we still find in New England. Here we have good schools and good colleges; but these two kinds of institutions have grown up independently, there is even now no proper relation between them, and hence no continuity in our educational system. Adjustment is what we need—a closer connection between admission requirements and the courses of study that most of our schoolboys and schoolgirls pursue.

Here we are at once confronted with the oft-debated question whether French and German shall be accepted as a substitute for Latin and Greek. Viewed from the standpoint which I have taken, this problem admits of but one solution. The classics never have been and never will be regarded by the people at large as a profitable field of labor for children not destined to be scholars; it is a field to be cultivated by those few whose tastes and occupations will permit them to reap a harvest. As long as education was confined to certain favored classes of society, it was proper enough that the ancient languages should form a necessary and important part of it; but if we really are to try to bring representatives of all ranks into our colleges, we must begin by recognizing a variety of needs and preferences. The fact that Greek has been a joy to me should not debar my differently-minded brother from the benefits of a higher education.

Few men, I think, value more than I do the influence, on certain students, of a profound and sympathetic study of the classics; and no one, I am sure, would see with greater regret a marked decline in the work of that department. Although I have, for years, made no practical use of Greek, and am now unable to read the easiest Greek prose without a dictionary, I do not regret one hour of the time I spent upon that language. Why? Simply because my inclinations, duties, and surroundings, in my early years, made it possible for me to go beyond the memorizing of grammatical forms and catch some glimpses of the artistic spirit that pervades Hellenic literature.

The conservative advocates of a Greek requirement are apt to confound an experience of this kind with the ordinary performance of the schoolboy. Even among the few children who are now prepared for college, and are compelled to pass examinations in the classics, how many ever do anything more than the preliminary drudgery? To the average student—even under our present conditions—Greek and Latin mean nothing but the uninteresting tasks of committing to memory endless rules and inflections, and of turning into bad English a few texts, most of which have no striking literary merit. The only value of such work as this lies in a sort of mental discipline that can be gained fully as well through more attractive and more useful studies. In the time thus unprofitably spent a pupil could have acquired the ability to read French or German with ease, some practical familiarity with the language, some insight into European thought and customs, and, best of all, some appreciation of the masterpieces that abound in modern letters. The frank recognition of the comparative values of these acquisitions will go a long way toward establishing normal relations between our secondary and our higher institutions.

Let us consider, for instance, the case of Harvard College and the Boston public schools. The Harvard entrance conditions include Latin and either Greek or, as a substitute, a mathematical course so difficult as to suggest that it was intended to be prohibitory. In Boston we have two Latin schools, whose special business it is to fit boys and girls for college. These schools are not properly connected with the rest of our educational system. To enter one of them and take the full curriculum, a pupil, unless he is willing to go to college at an advanced age, must either be taught privately or leave the grammar school long before the completion of the course; hence they are filled, in the main, by children destined, from their birth, for a university career. We have also a school of mechanic arts, which serves as an intermediary between the grammar school and the Institute of Technology. But the mass of boys and girls that pursue their studies above the grammar grade is absorbed by our eight English high schools. These provide a three and (for those who desire it) a four years' curriculum. Scholars who faithfully complete this longer course are, in my opinion, just as mature and just as well equipped for college work as the Latin school graduates; but the subjects they have studied are not the ones that Harvard demands.

Now, most of these children come from ignorant families, and hardly begin, before they have reached the last or next-to-last year of school, to realize the value of a higher education. At this time, a thirst for knowledge is aroused in many—in very many—of these minds; in nearly all cases, however, it is too late. We are not justified in saying that there are opportunities enough for such boys and girls. With nearly all of them a straw is sufficient to turn the scale; their parents are generally indifferent to their plans; and if the children cannot hope to be admitted, on an equal footing with other students, to the institution that they regard as the best, they have not the strength to make the necessary struggle. A few, by mastering the theoretically impossible mathematical requirement, or by studying the classics with private tutors, find their way, with the waste of at least a year's time, to Harvard; a few others drift into technical schools or into minor colleges, where the entrance requirements are either more liberal or less severe; but most of them sacrifice to the Greek idol their newly awakened hopes and ambitions.

What is to be done? Our English high-school course cannot be turned into a mainly classical curriculum; such a change would not only be contrary to the interests of the vast majority of our scholars, but would doubtless result in reducing by a third or a half the number of children who go beyond the grammar grade. No, it is for the college to take the first step; let it demand a high degree of excellence in each subject, but let it offer, in the choice of subjects, all reasonable liberty. The duty of the schools will then be to bring all their work up to the university standard.

Such an arrangement as this would mean, for the college, rapid and healthy development and increasing influence on American thought and life; to the schools it would be of advantage in four ways. In the first place, the possibility (however remote) of a university course before each pupil would be a priceless incentive to intelligent application. Secondly, the existence of a standard fixed by a competent authority from without would tend toward the substitution of a spirit of industry and accuracy for the laziness, indifference, and general mental slovenliness that necessarily prevail among children whose pace is set by an easy-going local school board elected by indulgent parents. In the third place, the fact that all topics were "college studies" would certainly call for better instruction in the branches that are now regarded as of minor importance. Latin and Greek have hitherto been conspicuously successful as instruments of intellectual discipline simply because, forming the all-important element in a preparatory course, they have been vastly better taught than other things.

If all studies led to college, we might expect, before long, to find the same (or even a higher) grade of excellence in the teaching of French and German. Lastly, the higher degree of proficiency required in certain topics would necessitate the introduction of these studies at an earlier and more fitting stage of the child's career.

Experience has convinced me that, of all the years from five to forty, the time now generally chosen for taking up French and German—namely, the period between the ages of fifteen and twenty—is the very worst. We may learn a language either by intuitive comprehension and unconscious copying or by painstaking observation and discriminating imitation. Pupils at the stage just mentioned are too old for the first process and too young for the second; they are, moreover, tormented by a peculiar bashfulness that almost incapacitates them for oral exercise in a strange tongue. Children between eight and twelve, on the other hand, have not begun to be self-conscious, and are fresh enough to be fascinated by the novelty of a foreign language; their minds are alert, their habits of pronunciation have not become inflexible, and they take naturally to the observation of details. Young men and women, too, who have reached the age of twenty, are free from the morbid shyness of the intermediate years; and although their habits of speech are more fixed than those of the child, and their unconscious observation of small things is less keen, they have the advantage of mature intelligence, varied experience, and long training.

In Boston we have already tried, in several grammar schools, the experiment of teaching French to very young children, and the results have been so encouraging that I hope other schools will soon fall into line. If we can have a regular course of three or four years in this grade, well planned and well directed, our pupils, by the time they reach the age of fourteen, will have mastered the worst difficulties of pronunciation, and will have become so accustomed to hear their own voices uttering foreign sounds that, when the bashful season comes, a French word will have lost for them its special terrors.

Moreover, the application of some of the most important principles of grammar will have become, with these children, a matter of habit; and easy French texts can be read by them without unpleasant effort. I shall dwell here neither upon the great improvement that such a course as this would inevitably produce in the pupils' pronunciation of English, their understanding of English sentence-structure, and their power of oral and written expression in their native idiom, nor upon the immense advantage that would result from it for those who mean to study a second foreign tongue, whether this language be modern or ancient.

When we are able to count upon such a foundation as I have just described, we can devote the four years of secondary work to higher discipline of three kinds: to the study of literature, as a means of awakening new interests, broadening the pupil's horizon, and educating his æsthetic sense; to translation, as a means of developing mental alertness and training the child in the correct and ready use of his mother tongue; to grammar and composition, as a means of exercising and strengthening his reason. I hope you have noticed that I am not afraid to speak the word *grammar*. Of late years this noble science has been in sad disrepute; and now that men are feeling the need of it again, they hesitate to call it by name. I am glad, therefore, of an opportunity to say not only that I regard a thorough grammatical training as an essential feature of any successful language teaching, but that I consider grammar, in itself, as the most valuable instrument we possess for the development of reasoning power; and it seems to me clear that the abolishment of so-called "technical" grammar work in our lower grades is responsible, in some measure, for the generally flabby mental condition of our present high-school pupils and college students.

I need go no further into details. The mere outline of an imaginary seven or eight years' course of study suffices to show that the subject of modern languages contains possibilities great and varied enough to give it a place in the front rank of admission requirements. Begin French and German in the grammar school, make the final standard high enough, and the result will be a many-sided proficiency, a cultivation of speech, mind, and taste, that the most fanatical conservative cannot fail to recognize as at least equal in value to the traditional smattering of ancient tongues. Then, perhaps, we shall be spared the incongruous spectacle of a great college providing no elementary instruction in Greek (a subject that can very profitably be studied at a somewhat mature age), and devoting a large part of its energy, time, and money to the drilling of reluctant young men in the A, B, C of German and French.

C. H. GRANDGENT

DIRECTOR OF MODERN LANGUAGE INSTRUCTION,
BOSTON, MASS.

Mr. Morris H. Morgan, Assistant Professor of Greek and Latin in Harvard University, opened the discussion on Mr. Grandgent's address, as follows:

I suppose that I have been asked to open the discussion on this paper because I am a classical man, and because it is expected that I shall attack Mr. Grandgent's position from the classical point of view. It seems to me that it would be easy to defend the classics and even to claim for them pre-eminence over every modern tongue; and hence to urge that they should be studied in the schools on the ground of this pre-eminence. This line of argument has been often taken. I do not think that the pre-eminence of the classics has ever been more ably supported than in this very room, about six years ago, by the late James Russell Lowell in an address delivered before the Modern Language Association of America. I suppose that there was expected from him a glorification of the modern languages at the expense of the classics, but I think that anybody who will read over that address, and read between its lines, will conclude that a good many members of that Association, as they went home, might have said to themselves with Balak: "I called thee hither to curse mine enemies, and behold, thou hast blessed them altogether."

I have been much interested in Mr. Grandgent's remarks about his change of heart. His experience, if he will forgive me for saying so, seems to my mind to amount to this: When he knew Greek—he says that he doesn't know it now, but this, I hope, is only his fun—when he knew it, he believed in it; now that he doesn't, he doesn't want anybody else to know it. This reminds me very much of a beautiful little animal fable which I suppose is to be found in French and German as well as in Greek and Latin. I suppose that you all know the fable that I mean: of the fox that had lost his tail. But there is really nothing at all in the argument that Greek is a useless study because one forgets it in a few years. Of course one forgets it if one does not keep it up, but the same is true of French and German and of every other college study. Who is there here who could pass a decent examination in a single college study which he has not kept up since his graduation?

But we are not here each to glorify his own subject. We are here in the cause of education. If, therefore, I were to defend the requirement of Greek as a normal study in our schools, it would not be upon the ground of the pre-eminence of Greek. I should rather show that it was a natural part—whether a possible part or not, at least a *natural* part—of every well-considered system of education for boys. I do not think that it would be a difficult thing to show, and I flatter myself that I could demonstrate it to the satisfaction of almost everybody here. But the effort would be a waste of time. And why? Because there is at this moment a substitute for Greek in our scheme of admission examinations, and there always will be. It is futile to dispute upon this question, and I do not conceive that anything is to be gained for the cause of education by argument on such a point.

The only question is, then, what should the substitute be? Mr. Grandgent has uttered again the often-repeated cry that the Harvard substitute for Greek is "practically prohibitory, and so difficult as to indicate that it is intended to be prohibitory." Now, what are the facts here? Preparation for the elementary requirement in Greek takes two years. The present substitute for Greek is not wholly mathematical. For instance, one-half of the substitute may be chemistry. Now everybody who has had anything to do with preparing boys for this requirement knows that it is a simple one, and that it can be easily got up in the time which would be devoted to a year of Greek. In fact, it is so easy that a letter has recently been received here from an eminent teacher in this vicinity, who holds that it is unfair to allow chemistry to count for two hours while elementary physics counts for only one. The other half of the substitute for Greek may be a combination of solid geometry with logarithms and trigonometry. Does anybody fancy that this means more than the other year's work in Greek? If anybody does, he must answer two questions. First, why does the mathematical conference of the Committee of Ten recommend that solid geometry be no longer a subject taken at admission examinations by itself as advanced work, but that it should be combined with plane geometry as an *elementary* subject? Second, who can call logarithms a study too difficult for boys when, fifteen years ago, it was actually required of all boys as one of the subjects of admission? The truth is that the combination of logarithms and trigonometry with solid geometry is taught in the college in a single course that lasts but one year. The fact, then, seems to be that the substitute is in itself no more difficult than the Greek requirement, and that it should take no more time. It would appear, then, that something is wanted in the place of Greek which shall be *easier* than Greek. For the average parent cannot possibly claim that the subjects in the substitute stand further away from the life of the average citizen than Greek does. And it cannot be said, by one who supports an advanced study of the modern languages in schools, that our present substitute for Greek is such that hardly any teacher knows enough to teach it. For the answer is easy: Hardly any teacher knows enough to teach modern languages on the high plane which Mr. Grandgent desires. And if you reply: Ah, but such teachers will be forthcoming if this new substitute is allowed, the rejoinder is—Why have they not been forthcoming to teach the present substitute?

I would not, however, be misunderstood. I am not defending the present substitute as the only possible one. Very far from it. I had no hand in its adoption, and am far from thinking that this mathematical training, or mathematical combined with scientific, is the only proper equivalent for the training which comes from a study of Greek. I am ready to accept any substitute in any subject which can be shown to be as good for any boy as I conceive Greek to be. This is not saying, however, that I personally should *advise* a boy to give up the study of Greek for anything else.

Mr. Grandgent, however, has suggested a long and deep study of the modern languages in the place of Greek—yes, even in the place of both Greek and Latin. But he seems to forget that there are two objections against such a course. The first one of these two objections is that it involves a chronological absurdity, and the second is that it is open to the charge of deceiving your best pupils. The chronological absurdity is that you propose to carry pupils for a considerable distance into the study of two modern languages without giving them any idea of the ancient languages which provided the modern languages with their vocabularies and with their literary forms. The deception is that you lead your best pupils to believe that a man can be a real scholar in modern languages without knowing anything of the ancient ones. This fallacy has been recognized lately by the division of modern languages in this university, which in future will require every candidate for honors in these languages to have an ordinary knowledge of Latin and at least an elementary knowledge of Greek. For my own part, instead of this very advanced study of the modern languages in our schools as a substitute for Greek, I should prefer to accept a substitute made up of a more moderate amount of modern languages in combination with one of the sciences or with mathematics.

On the subject of the object of education itself, Mr. Grandgent holds high views. He holds that its prime object is to promote good citizenship and that the masses must be trained to use the supreme authority which has prematurely come into their possssion. I will not say that it is actually his view that this end can be sooner attained by teaching in schools advanced French and German rather than advanced Latin and Greek. This question of teaching citizenship in the schools and to the masses admits of long argument; for it is not a new question, being as old as Plato and Socrates, who interested themselves much in the question whether virtue, and especially political virtue, could, after all, be taught to the young.

Mr. Grandgent, when he was in the "pea-pod state," believed that a college was a place for the higher development of a few choice spirits. He forgets that we now have a Graduate School for these. Nobody, perhaps, holds any such views of Harvard College now. I have not heard them expressed here for a long time. We are talking to-day about the requirements for admission to college. Let me suggest a different definition of a college. A college is perhaps a place in which a young man, having come thither with a proper general educational foundation, may pursue one of two courses: either a general course of liberal education; or, having come with that same broad foundation, may pursue the special course of study to which his taste may lead him. For myself, I believe that the latter is the better course, because it gives more power; and, after all, power is the end of education.

The discussion of Mr. Grandgent's address was continued by Dr. Julius Sachs of New York, as follows:

I find myself in substantially the same attitude on the subject of the modern languages as an alternative requirement that Mr. Grandgent represents: I believe in it, provided a high degree of efficiency is demanded. Wherever German and French in the secondary-school course have been made supplementary to a thorough preparation in one or both of the classic languages, it has been done in response to the very proper demand that every person who pretends to culture shall be reasonably familiar with the three tongues in which the most vigorous modern thought on literary and scientific subjects is embodied. It is quite a different thing to make one or both of these languages (German and French) an *alternative* for the study of the classics. We must devise the means to make them educationally as valuable as our classical training has hitherto been. Within the circle of college-bred men no one surely will deny that classical training has been valuable in the past, and with the improved methods that recent years have developed, it is still our most potent educational factor; no other educational agent, thus far available, secures so definite an insight into language-structure, promotes so rapidly an ever-growing power in the choice of vocabulary, and stimulates so directly an appreciation for various models of good literary form. Here, then, are several aims which good modern-language teaching must strive for. Clearly defined grammatical study is above all indispensable; from the nature of the two modern tongues there is little cause to fear that the study of their grammars may become the burden to the youthful mind that Latin and Greek grammar once were. The example of the newer school grammars for Latin and Greek may well be followed in the creation of suitable modern-language grammars. Notwithstanding the great wealth of forms in Latin and Greek, the most recent grammars, following the example set by German scholars, endeavor to teach in compact form the essentials, and relegate the minutiæ and the unusual forms to the fuller works that are appropriate for detailed linguistic study. Many of the authors of our French and German grammars seem to me to lack that sense of proportion which accentuates what is vital and passes that lightly by which is occasional. In view of the comparative simplicity of the French and German grammars, the grammatical discipline should be enforced with the greatest energy, not merely as a discipline *per se*, but as the sole basis for the practical handling of the foreign tongue. It is to the laxity in the demand for grammatical accuracy that I am inclined to ascribe the haphazard character of much of the modern-language work in our schools. The acquisition of an extensive vocabulary is so obviously desirable that *this* need has been most generally met by German and French teachers; it is apt to be closely allied to the choice of reading material for the secondary student. I know that in your university the recommendation of a sharply defined course of reading is objected to in the classical, as well as in the modern-language courses; but it seems to me that the latitude you advocate is not as advisable in the modern-language direction as in the classics. In Latin you demand the ability to read *easy* Latin prose; it is possible to enumerate on the fingers of one hand the standard authors from whose writings the selected passages will be drawn; in like manner your poetical selections are limited to the works of two or three authors, and your candidates have in consequence been familiarized in their school course with the writings of these standard authors; they have been trained on models of generally recognized excellence. How does the case stand with French and German? I can conceive of a faithful teacher who, with the latitude extended to him, has read a series of selections, each one good in its way, and yet in no sense representative of the best thought that is so abundant in these two tongues. The area of selection has widened a hundred-fold, and one may dip into the literatures at many points without securing the object for which these studies are carried on. And a definite object, I take it, is to be subserved by these studies; not the chance familiarity with any phase of foreign life; *that* is not a genuine educational feature. Unless we are ready to abandon completely the *kind* of educated man that emanated from the classical training, we ought to insist that in part, at least, such works shall be used as suggest the best that the world's literature has produced. However one may rail at the study of the classic tongues, surely no one will gainsay the charm that is inherent in the classic *spirit* as it expresses itself in the writings of the great modern poets. Several of them are *themselves* the aptest illustrations of the kind of influence that our modern-language work should insist on; without being themselves classical scholars, they are saturated with the spirit and dignity of the classic world. It should be insisted that, as a part of their training, our students shall enter upon this legacy at as early a day as possible. Let the ephemeral production of the modern novelist bring them into touch with the language of the day and the social atmosphere it represents, but do not fail to require some study of permanently valuable literature. The well-known objection that a specified list of such standard works enslaves and narrows the teacher can be easily obviated. Let the requirement read: a play of Lessing, Schiller, Goethe respectively, and in like manner of Corneille, Racine, Molière, and the range of choice is not unduly narrowed. I myself declare for the freedom that is thus offered, rather than for the license of unlimited selection in which the best may be ignored. And it is all-important that a considerable portion of the reading undertaken in secondary work consist of selections from works that are classics in their respective tongues. With the selections in vogue in many of our schools, it seems to me as if we wished to convey to the youthful mind the impression that one must penetrate to the sanctuary of the classicists in German and French through the highway of the commonplace. It is an observation that others have surely made, even as I have made it, that pupils cannot await the time until they are permitted to read *Maria Stuart*, *Wilhelm Tell*, *The Maid of Orleans*. Youth—at any rate, high-minded youth—manifests in the period of secondary-school life a susceptibility for idealism in literature which is truly refreshing amid the perversion of all former canons of literary criticism which confront *us* of mature age. It is a fatal error to postpone acquaintance with these masterpieces to the college period. They help to develop good taste; let them be introduced as early as possible in the formative period.

There is but one other point to which I wish briefly to refer; it is the question of the time that is to be devoted to this alternative, if it is to be a substitute for the classics. As I firmly believe that we are in little danger of pitching our requirement too high, the suggestion of Mr. Grandgent that three or four years in the grammar school and four years in the high school be divided up between the study of the two languages meets with my cordial approval. We shall of course be met at once by the well-known cry: "That is clearly impossible, with the demands that other subjects make on our time—mathematics, history, English, science." But, gentlemen, it must be made possible, if there is to be any real progress in secondary education. We must rid ourselves of the trammels of the twenty hours per week fetish; it is an easy computation, of course, to prove that within that limit it is not feasible. But the twenty hours per week must be exceeded; our young people are not working too hard; their intellectual efforts do not overtax them; it is the dissipation of energies in other directions, in social distractions, for example, that wears on their systems.

Little wonder that President Eliot finds French, German, and English boys far more advanced at seventeen than our boys are; these foreign boys are not what we popularly call "grinds," by any means; they enjoy rational and moderate amusements among each other, but parents and pupils accept as their ultimate guide in regulating the daily life of the young people the advice of wise and well-meaning masters, whose entire life is dedicated to this work. It is no small issue this; we must gradually revolutionize the utterly false position of parents toward the school question, and in emphasizing the sore points of our present system, we cannot be too insistent. It would be unfair to omit mention of the fact that an increase in the hours of school work ought not to mean an increase of recitations, conned at home without the co-operation of the teacher. Our teachers would under such a change of system be *compelled* to be true guides to their charges, not mere inquisitors to detect deficiencies in preparation. I think we are approaching that condition steadily, and I ardently hope that the advanced instruction in French and German will profit by it.

III

BOTANY AS AN ALTERNATIVE IN COLLEGE ADMISSION REQUIREMENTS

It is not easy to urge the claims of any new study to a place among the subjects required or allowed in college entrance examinations without first saying a few words with regard to the general reasons for adding anything to the present long list of requirements. If, as is quite commonly believed, the student who is able to do successful work in one department can do good work in any other, there would seem to be little reason for offering much option among the subjects in which he is to prepare himself for college. If he has spent his time in the fitting school in the careful study of three or four substantial subjects and can pass a rigorous examination on these, he may be regarded as successfully fitted for the work of the college. I wish, however, to protest emphatically against this obnoxious fallacy, and to state at the outset that it is to many teachers a matter of daily observation that the capacity of the student varies through a wide range in the power to grasp and assimilate diverse kinds of knowledge. The instructor who has had much experience in any kind of biological work in the secondary school, if the teaching is done on the departmental plan, can hardly have failed to notice that the standing which he assigns to individual pupils will, in a not inconsiderable number of cases, vary most widely from that which the mathematics teacher, for example, will give to the same pupil. It is a rather common assumption with the teacher of the mathematical subjects that the reason why any given boy or girl is not as successful in his department as in some others lies simply in the fact that such a pupil is unwilling to put a fair proportionate amount of study on the often somewhat distasteful work of mathematics. I do not believe that careful examination will warrant any such view of the matter. Most of us are perhaps familiar with some such cases as that of a boy whose experience I call to mind as a marked instance of the kind of misfit which the preparatory course often proves to be. This boy for two successive years, at least, tried to master the first year's Greek in a preparatory school. Hard study availed him nothing, and he was at length obliged to abandon the attempt to qualify himself for the college entrance examinations. Entering college as a special student, he quickly became notable for his attainments in all the biological subjects that he could elect. The dunce of the preparatory school had become a leader; his collections and preparations were displayed as models, and his knowledge was deferred to on all hands. With his altered position there came to the young man a natural access of confidence. His work, which had been a dreary nightmare, became a pleasure and an inspiration. To the professor who discovered the student's hitherto unsuspected powers there came the rare gratification, which has perhaps been given to some of us, of finding a career for a boy before whom there seemed to lie no intellectual future. From the biological work of the college to the study of medicine was the natural step which this student next took, and at one of the foremost medical schools in the country he so far distinguished himself that he was given a position of trust in the institution, while still an undergraduate student. After his graduation from the medical school he advanced quickly into the successful practice of his profession.

In order to test the validity of the assumption that the pupil who does well in one subject may be expected to do well in most or all others, I have looked through the records of the last two years (1893–94 and 1894–95) for the entering class in the Boston English High School. To make a complete analysis of the data would have required much more time than I was able to devote to the inquiry. For the present purpose it seemed enough to compare the record of final examinations in the only biological subject studied (botany) with that in the mathematics subject (algebra). The whole number of pupils examined in the entering class, during the two school years, was 526. Those students were selected from the list whose percentage in algebra was below the pass mark (50 per cent.) and whose percentage in botany was above the mark. There were 83 pupils whose record showed this contrast, or nearly 16 per cent. of the entire number. This is not a larger proportion than one might expect to find. But it seems a noteworthy fact that the average mark in botany for the 83 pupils is 64 per cent., while their algebra mark is only 31 per cent., less than half as good. In a considerable number of cases, of course, the disparity is much greater. There were two cases with 50 per cent. in botany and zero in algebra, one of 60 and zero and one of 80 and zero. In some at least, of these cases, the boys were of more than average general intelligence. They were promising candidates for college education or for that of a technical school, and yet they had gained just nothing at all in their first year's work at mathematics of a somewhat generalized character. It may be said that the comparison between algebra and botany is hardly a fair one, inasmuch as the latter is a more attractive subject than the former. On the other hand, as things are at present arranged, algebra—as the student well knows—leads straight to the college or the technical school, while botany leads nowhere beyond the high school.

A set of cases parallel to those found in the English High School could readily be made out in regard to the many boys who annually leave one of the largest preparatory schools in New England at the beginning of the first full year's work in Greek. Naturally most of the boys who drop out at this time are either dull or idle, but there are notable exceptions. It is a suggestive fact that out of the average entering classes of about 150 in that school, all of whom are admitted upon their distinctly pledging themselves to take a college course or its equivalent, only 50 have ordinarily been graduated, or sent directly to a college or some other institution of learning. Doubtless this means, among other things, that the parents have often miscalculated the powers of their children, or that the latter are frequently in haste to go into business of some kind and so become self-supporting. But after making allowance for all such cases there is still a considerable number of pupils who leave the school not because they cannot or will not do good intellectual work, but because the kind which is offered them is distasteful. It would be interesting to make a careful examination of the relative standing, in all subjects, of the pupils in a large school where most of the studies of secondary schools have been well taught for a good many years—all about equally well, and all by the most rational methods. Unfortunately, I do not know where to look for such a school.

If one is unwilling to admit that evidence of the kind just cited, from the successes and failures of pupils of secondary schools, proves anything more than that such students are often unwilling to learn what they are required to master, he can at any rate hardly refuse to admit the testimony of men of genius to their own inability to acquire what every undergraduate is supposed to know. Faraday will hardly be accused of having been deterred by idleness or general inactivity of mind from having gained the mathematical knowledge which he needed to forward his researches. Darwin was not shut out from the ready use of modern languages by anything less formidable than an extreme inaptitude for mastering these well-nigh indispensable means of communication with his fellow-investigators. Conclusions in regard to the working of ordinary minds may safely be drawn from the study of exceptionally powerful and highly specialized ones, if we remember that in viewing these we are looking at a greatly enlarged sketch, with the lights and shadows exaggerated.

Keeping this precaution in mind, run over the long list of men who distinguished themselves in certain lines of thought, while they showed themselves to be incapable of even ordinary attainments in other directions. Does not the result of any such examination lead one at least to the conclusion that, for multitudes of the men who have most largely aided the world's progress, courses of study, in or below the college, could hardly have been made elastic enough? Believing this to be the case, and agreeing with the often expressed opinion of the first speaker of to-day, that most studies, pursued in the right spirit and by right methods, may be made to yield great disciplinary results, I cannot regard it as other than wholly inexcusable to restrict the candidate for college to any list of subjects which may exclude the very things—the only things—in which he is qualified to excel. If it be argued that considerations of expense or of convenience make it necessary considerably to restrict the number of subjects in which the pupil in the ordinary secondary school may be fitted for college, it may certainly be said that, in all cases where it is possible to carry out a more ideal scheme of preparation, it is an offense against the first principles of pedagogy to neglect to do this to the fullest extent.

If it be granted that there are minds which can do more work and better work in the biological field than in any other, it remains simply to show that preparation in this department can be made efficient; that examinations can be so shaped as to discover how satisfactorily the work has been done; and that the power for work of the student who has been prepared in such subjects will be adequate to the demands of a college curriculum.

In the first place, then, as regards the possibility of doing satisfactory biology teaching in the secondary schools. It is safe to assert that but very few secondary schools are at present so equipped, or can be so equipped, as to do even reasonably good work; that is, to the extent of acquiring knowledge at first hand, in the domain of anatomy and physiology, human and comparative. The equipment that would be required is too expensive. The constant dissection, and occasionally vivisection, are so repugnant to the average pupil and still more perhaps to the average parent; the necessity for special laboratory rooms and appliances is so great, that it seems hopeless to expect in any short time really good teaching on this side of the biological field. There are few points on which competent teachers are so wholly agreed as upon the extremely unsatisfactory nature of physiology teaching in the secondary schools and the lower grades. It seems necessary to retain the subject in school courses because of the immense practical importance of a moderate knowledge of hygiene, and because this knowledge is so much more easily grasped, and so much more interesting, if it is not taught in a purely empirical way. But all that can be done in the way of demonstrations with the skeleton and the manikin; all the home-study by the pupil of his own bones, joints, and muscles, his own respiration and circulation; all the experimental discussion by the teacher of the nature of digestive processes, the aeration and deoxidation of the blood, and kindred topics—all these still leave physiology in great part a book-subject.

Zoölogy offers a far more promising field for school-work. I was greatly interested, years ago, in trying to teach Morse's admirable *First book in zoölogy* in high-school classes. Very lately, conversations with instructors in the zoölogical department of Harvard university have convinced me of the feasibility of a somewhat extended course in the elements of zoölogy, beginning in or below the grammar schools. But the same difficulties which stand in the way of satisfactory work in human physiology are encountered (though in a much slighter degree) in the prosecution of zoölogical studies in primary and secondary schools.

With botany, it seems to me, the case is different. Less illustrative material is required, and it is of a less expensive kind. Teachers are already better prepared to do the work that is demanded, and this study can be pursued in a fairly effective way, even if the laboratory work of the class must unfortunately be confined to the limits of the schoolroom and the home. Such teaching, of excellent quality, is already to be seen in a good many of the larger high schools of the country, but it is so far from general that the audience will perhaps pardon an attempt to show in some detail how the work can be shaped so as to secure satisfactory results, even under somewhat adverse conditions. Let it be understood at the outset that the botany teaching contemplated has little to do with the time-honored plan of examining in a cursory way the organs of a few common plants, then becoming acquainted with some typical flower clusters, studying the floral organs, acquiring a rudimentary knowledge of the principles of botanical classification, and then putting the most thorough work of the term, or year, into the analysis or determination of the largest possible number of flowering plants. This kind of study has often succeeded in arousing a love of flowers, but very little scientific importance can be attached to ordinary classwork conducted on this plan. I am convinced, as the result of some twenty years' experience in botany teaching in secondary schools, that the thing to be sought is to interest the pupil in the plant as a living being, pushing its way amidst fierce competition in a more or less hostile environment. He must be made to acquire a fair knowledge not merely of the gross anatomy but of the histology of the plant; following it up at once with such vegetable physiology as is within his comprehension. He must be made to think of the plant as seeking its food, building up its tissues, reproducing itself and securing the maintenance of the species by a series of wonderfully interesting adaptations which he is, as far as possible, to recognize and trace out for himself. He must learn to regard unicellular organisms like the Protococcus and yeast as being no less truly plants than the lily, the oak, or the elm. The microscope is to be brought into constant requisition, so that it will not be necessary to take statements about the minute structure of vegetable tissues at second hand. Simple chemical tests are to be freely applied to detect such almost omnipresent substances as starch, sugar, and proteid materials. Their distribution in the various parts of the vegetable organism, and the reasons for it, should be fully discussed. The phenomena of osmose, of root pressure, of transference of water throughout the plant, and the transportation of tissue-forming material from portion to portion of the plant must be carefully examined. The movements of the plant, whether for the purpose of securing the most desirable illumination, for climbing, or for the capture of insects are to be watched and recorded, and the whole subject of the adaptation of flowers to secure transportation of pollen by insects, by the wind, and by other agencies is to be investigated at first hand. The various contrivances by which seeds and fruits secure transportation are to be studied in the seeds and fruits themselves, so that the importance of an adequate dispersal of seeds may be fully recognized. Finally, systematic botany is to be studied by actual comparison of a wide series of types.

The botanical laboratory is coming to be a recognized part of the high-school building, but it will be several years before such a room will be as generally provided as chemical and physical laboratories now are. In the mean time some of us have managed to do a good deal of experimental work on the desks of the pupils and the teacher, and to have another important portion of the work done by the children at home. Given a few compound microscopes and a generous supply of materials for window-gardening, together with necessary apparatus borrowed from the departments of chemistry and physics, and it is an easy matter to carry through enough observations to rest the beginner's knowledge of botany on a sound inductive basis. Very large amounts of illustrative material may be secured all the year round from the druggist, the grocer, the provision-dealer, and the lumber-dealer. It is unnecessary to lay down a more complete syllabus of the work to be done; but if it is understood that the pupils who are able to do so are to be encouraged to do constant reading in the works of such authors as Darwin, Lubbock, Kerner, and others who have treated in an accurate and yet intelligible way the relations of plants to their environment, it goes without saying that the pupil will not only have learned to observe and to reflect, but will also have acquired a considerable knowledge of the use of books of a somewhat advanced character for the purpose of reference.

The apprehension that the study of botany or zoölogy could not be carried far enough, or occupy sufficient time in the secondary school, to take the place of such a subject as an ancient or even a modern language, no doubt is partly responsible for the exclusion of biological subjects from the admission requirements of some colleges. There need, however, be no fear on this score. One of the most admirable of recent laboratory manuals for botanical study in the high school would require (so I am assured by an expert) not less than three school years for its completion. And in this book many of the most interesting and workable topics are dismissed with a bare mention.

It would not be difficult to shape the college entrance examination in botany on the same general lines that have resulted so successfully in the Harvard physics examination. Let the candidate be required to present a suitably prepared and certified notebook, to pass a laboratory examination on the morphology and the gross and microscopical structure of a designated number of plants and their tissues, and to pass a written examination on such portions of his subject as could best be treated in that way. It would, no doubt, be two or three years before anything approaching an ideal scheme of examinations could be worked out, but the subject presents no difficulties greater than would occur in any of the physical sciences. It is refreshing to think of the stimulus to the work in botany in secondary schools that would follow any general adoption by the colleges of such an examination as is here outlined. Never again would the omniscient chairman of a village school committee warn the botany teacher, as the speaker was once solemnly warned, that the *study of plants* had occupied too much of the time of his class, and that the committee wished it to be understood that memorizing the text-book must constitute the main portion of the work in that subject (as in all others).

It may be worth while here briefly to discuss the exact nature of the training which the pupil may derive from the study of botany carried along the lines which have just been so hastily sketched.

It is well known that even elementary botanical work of the slightest character does a good deal toward training the power of observing. Botanical study in which the histology of some of the principal tissues is taken up does far more. If the first drawings from the microscope are afterward compared with *camera lucida* drawings or with photo-micrographs, and the pupil is sent back to the instrument again and again until he grasps and reproduces all the most important characteristics of the structure at which he is looking, he will have learned, as never before, what it means to see things accurately. I have in mind an instance in which every pupil in a division of some thirty-five members went twice to the microscope, before a single one out of the whole division was able to make out the shape of the markings on grains of potato-starch; most of the class merely failed to see any markings at all! But when at length someone did discern what the markings were like and sketched them on the blackboard, the rest of the division were disgusted with themselves for not having made out the structure at once.

Some skill in the processes of inductive reasoning is another most valuable result of the careful study of elementary botany by the laboratory method. The experimenter is, for example, led to investigate for himself the influence of temperature, light, air, and moisture on the germinating seed. Each condition is studied separately, and finally the pupil is able, by synthesizing his observations, to state the optimum conditions for the germination of the particular seed which he is investigating. Again he makes water-cultures of germinating plantlets, sprung from some seed with thick cotyledons such as the pea. Part of the plants are left in their natural condition, others have had the cotyledons removed, and the value of the stored nourishment in the seed is made perfectly evident by the extremely unequal growth of the plants. In another instance the plumules are removed from sprouting seeds, and the pupil is given a chance to infer the importance of this bud by noting with what difficulty the plant at length manages to supply its place. The function of the cutinized or corky epidermis is learned from a comparative experiment in which a pared and an unpared potato are placed in a hot, dry atmosphere, and the very unequal losses of evaporated water are determined by successive weighings. These are but a few instances of the kind of experimental problems which the competent teacher can supply in large numbers for class use.

Other studies which do not so readily admit of experimental treatment may be not less fruitful in their effectiveness for training the logical faculties. Given a general statement of the need for cross-fertilization in many flowers and a few hints as to the means by which pollen-carrying is accomplished, and it is easy to find work to occupy a class for weeks in tracing the means by which designated flowers secure cross-fertilization. A series of problems of increasing difficulty may easily be arranged, beginning with such flowers as those of the buttercup and the flax, and ending with those of labiates, composites, and orchids. Another most important set of studies is in connection with weeds and their phenomenal success in the struggle for existence. One such weed as the dandelion or the sorrel may easily furnish a class with a week's work in ferreting out the causes of its tenacious hold upon fields and gardens.

I am well aware that a most plausible objection is often urged against the introduction of subjects such as the biological ones into college admission requirements. It is argued that elementary teaching in this department is far inferior to that in the classics and mathematics, and that it may even unfit the student for serious biological work after he enters college. Doubtless much of this suspicion of secondary-school biology is well grounded. But imagine the conditions reversed. Suppose that nearly all colleges for the next twenty years refused to accept Greek, Latin, or mathematics as subjects for their entrance examinations, but laid the main stress on English, the biological sciences, and the physical sciences. Does anyone doubt what class of subjects would be best taught in our fitting schools at the end of the period mentioned? The law of supply and demand is no less operative in the educational than in the business world. And how many colleges would be willing to put themselves on record as advocates of an unlimited perpetuation of the existing school and college curriculum simply because it is, irrespective of whether it ought to be? The reformation that has come over physics-teaching in the best high schools and academies within little more than a decade ought to have impressed the most conservative educator with the fact that, to use the words of a late eminent American, "Some things can be done as well as others." Nor is biology-teaching below the college everywhere as bad as college professors think it. It occurred to me, about a year and a half ago, to conduct a brief inquiry into the views and wishes of botany teachers in secondary schools all over the country, and into the mode in which the work in this department is carried on. Unless I am greatly mistaken, in at least ten of the schools which were heard from the course would compare most favorably, as regards amount, educational value, and fitness to prepare the pupil for more advanced botanical study and research, with the elementary course in botany in Harvard College.

Distrust of educational theorizing, unless supported on a broad foundation of observed facts, is the common state of mind of most experienced teachers. We would all be glad to know by actual trial just how far the elements of biological knowledge, gained as far as possible by original observation in the grammar school and the high school, would go toward equipping the college freshman for the rapid and effective prosecution of further work in zoölogy or botany. We have thus far had little opportunity to judge by experience of the value of this preparatory work in the subjects mentioned. Is there any reason, however, to doubt that such preparation, judiciously managed, would help as much toward further acquisition as the ability to use equations helps in mathematics far beyond the range of elementary algebra, or practice in the use of a dictionary aids the college student in linguistic work? I for my part am quite at a loss to understand the half-contemptuous, half-resentful spirit which not a few college professors of botany or zoölogy show when it is suggested that boys and girls of twelve to eighteen years are capable of learning to see objects through the microscope and to reason about the things seen. Is not this attitude of mind an obsolescent relic of the days when all biological work below the college (and a good deal of that within its hallowed precincts) was of about the same educational value with the traditional use of the globes, as taught in English schools for girls? But a more robust style of instruction is now rapidly coming in, administered by high-school teachers who are nearly always college graduates. Many of them, too, are unwearied students at some one of the summer schools of biology or of the winter laboratory classes for teachers, now becoming more common.

Unless the psychology of the secondary-school pupil, when he attacks the natural-history sciences, suffers a notable change from its condition at other times, there is no assignable reason why he may not be as happily, as rationally, and as thoroughly fitted for college along biological lines in part as on any other plan.

J. Y. BERGEN

ENGLISH HIGH SCHOOL,
BOSTON, MASS.

Mr. C. B. Davenport, Instructor in Zoölogy in Harvard University, opened the discussion of Mr. Bergen's address, as follows:

I wish to say a few words on the use of zoölogy and botany for admission examinations to Harvard College, from the standpoint of the college and of the examiner.

The chief advantage to be derived from the study of zoölogy and botany seems to me to be twofold. In the first place, it gives the student an interest in nature, which is of very great importance on account of its moral effect upon the student. It gives the student something to think about, something which is always present when there are no other objects to occupy his attention. The interest in nature can best be stimulated by out-of-door work. Such work, therefore, ought to be carried on, it seems to me, in the high schools, or perhaps better, in the elementary schools. The other advantage to be derived from biological study is the particular sort of training which comes best from biological work, together with the special knowledge which is derived from the study of animals and plants.

I want to speak now especially of this second advantage of biological study and particularly to lay stress upon the proper sort of work, so far as I see it, which the high school should undertake in these subjects in order to prepare students for college examinations. In the first place, that work should be very largely laboratory work. I think that is admitted now on all hands. It is only a few years ago that zoölogy and botany were taught almost entirely by text-books, but the laboratory has now replaced the text-books. The work does not necessarily have to be microscopic in character, although it would be of great advantage to have it so in part. It is very desirable, of course, that the student should have notebooks, in which are recorded the observations made in the laboratory.

The laboratory work may be largely of an experimental nature. This, I think, has been shown to us by the text-book of Mr. Bergen. Through his efforts, we see that experimental work can be introduced into the laboratory work. This experimental work he has shown to be very readily performed in the case of plants. The experiments which can be performed are largely those on growth and on the modifications of growth. In the same way experimental work can be performed upon animals, and experimental work of a nature which involves no cruelty to the animals, and therefore cannot be objectionable to anyone. Plants exhibit pre-eminently the processes of growth and reproduction, and experiments on these functions can therefore be performed best on plants. Animals exhibit locomotion and response to stimulus, and therefore experiments on such functions can be very well performed on animals, and they involve no pain. Experiments upon locomotion can be made in this fashion. It is well known that certain organisms, as for instance, the common slugs, move almost always with reference to certain external agents, as gravity and strong light; they move in straight lines vertically either from or toward the light. They have also a tendency to move toward or from various chemical re-agents, and toward or away from moisture. The phenomena of response to stimulus in locomotion are shown also by many other animals, as earthworms and such vertebrates as fish. Many of these experiments on animals can be carried on in winter time, since the animals can be obtained then. I want to lay stress on the fact that experimental work can be carried on in connection with laboratory work, not only in plants but also in animals, and that experimental work should form an important part of laboratory work.

Let me say one word about the correlation of work in zoölogy and botany. The Committee of Ten suggest in their report that high schools shall teach one or the other of these two subjects. As a matter of fact, in many of the high schools, particularly throughout the West, the two subjects are taught together in the same year, not necessarily side by side, but one half of the year devoted to animals and the other to plants. That method is coming into use more and more, I think; it is the method which was recommended many years ago by Huxley and was carried out in his text-book. It is the method which forms the basis of many text-books in laboratory work in biology. It seems to me to have an advantage in this, that so far as their activities go, animals and plants exhibit similar phenomena, and they have a fundamentally similar structure. The two groups of organisms should therefore, when practicable, be studied together, and the three periods a week for one year, proposed by the Committee of Ten, might be devoted, one-half to zoölogy and one-half to botany; or perhaps, it may seem advisable to have two half-years for zoölogy and two half-years for botany. I speak of this because I think it is important, since the method of teaching them together is so much used in the West. In the high schools of Chicago instruction in zoölogy and botany is under the direction of a single man, Mr. Boyer, and that method is adopted uniformly in all the high schools of that city and many of the surrounding cities.

Concerning the character of the examinations, it seems to me that the examination in physics sets the standard for this. The examination should cover the laboratory work and also the talks which ought to be given in connection with the laboratory work. The examination upon the laboratory work may be twofold; first, an inspection of the student's notebook to be handed in properly certified to by the teacher—not too much stress to be laid upon the notebook; and also, if possible, an examination at the university itself under the eyes of the university officers, in order to see that the student thoroughly understands the subject. A few questions on or the description of an object given to a student will enable the instructor to find out much more about the pupil's training than the inspection of the notebook. There should also be an examination on the student's knowledge of the principles of zoölogy. A college admission requirement of that sort is not a new thing. It exists to-day in the case of the University of Chicago. It may be interesting to read those admission requirements:

> The candidate is advised to include work upon both plants and animals.
>
> The candidate will be required: (*a*) To submit to the Examiner a notebook consisting of drawings and descriptions of the animals and plants he has studied. It is recommended that studies of at least fifteen principal forms be undertaken, that these studies be so far as possible such as do not demand the use of a compound microscope, and that attention be given chiefly to those organisms that can be procured and studied in the living condition; (*b*) To demonstrate, in the college laboratory, under the supervision of college officers, that he possesses some power to observe accurately and intelligently. More stress will be laid upon correct observations and the careful recording of those observations than upon technical terms, and the candidate is cautioned against employing terms which he does not understand; (*c*) To answer in writing a few general questions about familiar animals and plants, such as the perch, crayfish, grasshopper, fern, trillium, pine tree, etc. The candidates in 1896 will be expected to have some first-hand knowledge of the habits of the earthworm.

This involves observation upon living animals which can be easily kept in the classroom. I notice that this requirement has been slightly altered for the future, in that requirement *b* has been omitted. It may be that it has been found an impracticable requirement to administer.

IV

COLLEGE ADMISSION REQUIREMENTS

The two following papers contain the substance of the remarks of the speakers at the annual dinner of the Association.

In the preface to his second volume on the French Revolution Taine tells us that almost all his contemporaries were imbued with political principles, while he had none, and that he undertook his book in order to seek for them. "Up to the present time," he says, "I have found only one, so simple that it appears childish and I hardly dare to announce it. It consists entirely in the statement that a human society, and especially a modern society, is a vast and complicated thing." It is with a similar feeling that a layman approaches the great problem of education.

After Latin ceased to be the living basis of all collegiate scholarship its interest for instructors began to wane, and the teaching of Latin in the schools lost its real vitality. The mere mechanical discipline in grammar assumed an undue preponderance, and few American boys acquired sufficient familiarity with the ancient languages to read Greek and Latin literature for pleasure. Of late years there has been a great improvement in this respect, but it is impossible for Greek, Latin, and mathematics to regain their old position as the sole foundation of college education. I do not mean that the classics will ever cease to be an important means—perhaps the most important means—of intellectual training, or that they will ever cease to be a prerequisite for literary scholarship, but merely that they can no longer be treated as the only gateway to education. Other subjects have forced themselves into prominence; elbowed their way, as it were, to the front. French and German, for example, are essential to-day for the higher study of many branches of knowledge. Moreover, the interest of mankind has turned in a striking manner to the study of nature, a feeling that is shown in poetry, in art, and above all in science. This tendency has become so strong that it cannot be neglected either in schools or colleges, and must be taken into account in every well-considered scheme of education.

The recognition of many new branches of knowledge as factors in a liberal culture has raised difficulties that were not felt before. It has made the question of the relative educational values of different subjects a matter of prime importance. This problem is one about which an authoritative opinion can only be formed by persons directly connected with education, but a layman is struck by the absence of agreement among teachers, except perhaps so far as the elementary schools are concerned. Each instructor appears to place a peculiarly high value on his own subject; and indeed, to paraphrase the language of the Constitution of Massachusetts, there is a prevalent theory that all subjects are born free and equal and possessed of certain inalienable rights, among which may be reckoned that of being on the list of requirements for admission to college.

Even after the problem of values in secondary schools has been solved, the question of admission to college is not settled, for, while it is important to increase the avenues to the higher education, it does not follow that every course of study leading to a diploma in high schools ought to be accepted for entrance to college. It is by no means clear that the most complete curriculum for a boy whose schooling is to end at seventeen or eighteen is necessarily the best foundation for university life. A bush whose maximum height is five feet spreads out early, while a tree that is destined to be fifty feet tall is but a slender shoot when five feet high, and although its branches ultimately cover more ground than those of the bush, they expand much later. The same thing may perhaps be true to some extent of the human mind also. This I know is dangerous ground for a layman to tread, but there are one or two matters in connection with it in which even a layman may venture to express an opinion.

Something was said this morning about the need of extending the field of the entrance examinations in order that the college might be relieved from doing kindergarten work. With that statement I cannot agree, for it seems to me that the elementary courses are among the most valuable the college offers. A college doubtless fulfills its highest duty in training great scholars, who, by devoting their whole lives to the search for truth in some special line, extend the limits of human knowledge, and add new fields to the intellectual heritage of man. But the college must also provide a liberal education for the vastly more numerous class of men whose time will be chiefly occupied with industrial pursuits or the practice of a profession. Now, a liberal education at the present day may be said to consist in obtaining a sufficiently thorough knowledge of one or more subjects to avoid the danger of superficiality, and as broad an acquaintance with all others as it is possible to acquire. Of course the ordinary college graduate cannot be expected to possess much detailed information about all branches of knowledge, nor is it desirable that he should do so; but he can and ought to be familiar with the general tone of thought of men of letters, art, and science, of philosophers and historians. This, by giving him a wider range of vision, will help him in after life to form sounder opinions, and it will enable him to pick up and assimilate a great deal of information he would not otherwise retain. I am not suggesting that such a diversity of studies ought to be compulsory. I assert merely that the college ought to provide the opportunity for pursuing them. But if elementary teaching were to be completely transferred from the college to the preparatory schools, no one could pursue any study that he did not offer at his entrance examination. His election would be made for life at the time of admission, and his range of thought would of necessity be limited. The only escape from such a condition is for the university to teach elementary courses. Not elementary in the sense of courses fit for boys of twelve, but courses adapted for young men whose minds are otherwise well trained; so that a student who does not propose to pursue a subject exhaustively can learn the fundamental principles on which it is based. Everyone accustomed to teaching must be aware that a person who is well grounded in one branch of knowledge can master the general principles of another with great rapidity. There are, no doubt, some subjects to which this does not apply. In the case of the classics, for example, the labor of learning the language before the literature is reached is so great that it hardly seems worth while to try to teach the elements of Greek and Latin in college. But in most subjects the reverse is true. Harvard has long offered certain general courses in elementary science that have proved invaluable to many students, by giving them an insight into the processes of scientific analysis which they would never have acquired in any other way; and a proposal to abolish these, and substitute scientific work in the preparatory schools, would be a serious menace to the cause of liberal education.

Another matter of a kindred nature that impresses a layman is the age of entrance to college. There is a freedom about collegiate instruction, and about the whole atmosphere of college life, which does not exist either in the preparatory or the professional school. Yet two forces are at work that tend to shorten that life. On one side the age of entrance has been increasing, for although the average at Harvard has been lowered of late years, this is due, as the President points out in his last report, largely to the diminution in the number of abnormally old men; and in fact the table annexed to the report shows that the average age of the men between seventeen and twenty has not decreased. On the other side, the growth of technical knowledge has lengthened the time required for professional training, and has produced a desire to steal a part of that time from the college course. Now the age at which men begin their professional practice cannot be carried any higher than it is to-day, and indeed, in the case of medicine, it is too high already. The preparatory schools ought, therefore, to endeavor to reduce the age of entrance, and this would not seem to be impossible. A teacher once remarked to me that the loss of time in education begins in the nursery, and it is clear that the children of the rich go to the primary schools excessively late. By bringing them in earlier, and increasing somewhat the rapidity of instruction, it surely would not be difficult to get boys ready for the examinations sooner. My own observation leads me to believe that a young man of seventeen is quite capable of getting the full benefit of college, and that in spite of the nightmares about early dissipation which distress loving parents, he is at least as likely to resist temptation then as when he is older.

At all events it is probable that, if the age of entrance is not reduced, the time that might be saved at school will be taken from the period when education is the most valuable, that is, during the years in college.

A. LAWRENCE LOWELL

BOSTON, MASS.

Professor N. S. Shaler, of Harvard University, after some general remarks relating to the history of the Association, spoke as follows on "The articulation of the upper and lower parts of the Educational system":

The proceedings in the meeting this morning have given me satisfaction, in that they have shown that the members of this association of teachers are disposed to magnify their office by looking forward to the larger accomplishments which they may hereafter attain in their work. It was a very great pleasure to note the largeness of the considerations which were brought before you. They were indeed such as relate to the development of our society, the hereafter of our commonwealth, and the betterment of our kind.

The attentive observer has of late had a chance to note the curious way in which the problem of education has taken hold even of the inconsiderate people of this country. The misguided folk who of late have been clamoring for war, have found a new argument in favor of this greatest of ills in that the experience which it gives men is in a high degree *educative;* that the full powers of a man cannot be brought forth save by the training which is afforded amid the drums and tramplings of conquest. As yet the scheme of education in campaigns has not been organized, and therefore the details of the project from a pedagogic point of view are perhaps not open to criticism. We who know, however, how impossible it is to deal with the questions of this nature in a general way, may fairly invite the advocates of this new method of turning evil to the account of good to present us the details of their plan. In the presence of the head of this university, who has done so much for the development of freedom in the higher education, I must suggest that the use of war for moral and intellectual advancement should be left optional with the student, and that furthermore there should be at the outset at least, two electives in this department, one in foreign and the other in civil warfare. It is my individual opinion, based on some small experience in the matter, that a course in civil war, though somewhat costlier to the state in the matter of laboratory practice, will be found to have considerably more educational value than that in which the student limits his vivisection to foreigners whose dying speech he is not likely to understand. I am quite sure that the development of the sympathies, which is now so fitly made the object of education, can be much better accomplished where the student turns over the dead of the enemy in his search for his kindred and friends, than where he passes them by as total strangers with whom the account is settled when the slaying is done. It must be said, however, that in this matter I speak under correction, for I lack experience in foreign warfare, not having pursued an elective in that branch of the subject.

Putting aside this lighter matter, let me come to what is perhaps the more serious part of our consideration. I find this in the important effort which this society is making to fill in the ancient still-existing break between the upper and lower parts of our educational system. This system of education, which we have inherited from the past and are striving to better, began in the upper plane of an aristocratic society. When our people first came to this country, they had in general clear concepts as to the nature and value of such academic education as the learning of their time afforded. Their notions as to the extent and methods of the primary and secondary culture were not yet worked out. Hence it has come about that, while our colleges are directly inherited from those of the mother country, our common-school system has developed independently, and, on the whole, with no plan which may serve to relate it with the institutions of higher learning. In certain ways these two grades of schools have grown toward each other, but there is still an unhappy interval between them. If we had lived under a beneficent despotism in education, such as exists in France, that interval would doubtless have been filled in by authority; but happily for the larger interests of liberty, we are so placed that if it be closed at all, it will be by a natural growth.

It is the admirable purpose of this association to so arrange the Jacob's ladder of education that our people may find an unbroken way from its base to its summit; so that the youth of talent shall have a free, a beckoning opportunity to go upward as far as his talent and his ambition may lead him. The question before us is, How far institutions such as the university from which we take our name can help to unite our American educational system, so that it may bring about the best end of a democracy—an insurance that every youth, man or woman, shall have an opportunity to attain an education proportionate to the share of talents which nature has bestowed. We may boast as we please in an idle way about the equal chances of life in this country, but such equality will not exist until our education provides it.

Although the teacher in this university finds in its motives many things which serve to give hope and fervor to his work, it seems to me that the greatest stimulus that comes to him is to be found in the recent enlargement of its motives in all that relates to the education of our American people. I remember that after some recent political overturn—I don't remember which way it went, whether from Republican to Democratic or from Democratic to Republican—some aggrieved politicians asserted that the change was brought about by Harvard College and the slums. Although the association was at first taste offensive, the after-flavor is distinctly agreeable. I like to think that the influence of this institution has gone so far that the boss finds it diminishing his power in the darkest places of our life.

You know already of sundry ways in which this university is working—I will not say downward, for that word does not supply the true index of direction—but rather abroad in American education. The work of our summer school for teachers, the parent of all such institutions in this country and Europe, the schools examination board, a fit share in the co-operative work of the Committee of Ten, and our own association of teachers, are already patent. Let me tell you of one more advance which promises to lead far. About six weeks ago the masters of the secondary schools of this neighborhood were asked to come to Cambridge, in order that they might give their advice to the Administrative Board of the Lawrence Scientific School—which is now, in effect, through recent changes, essentially a part of the old college—as to what could be done to lift the requirements for entrance to that school, and as to how the work should be effected so that it might best help the interests of secondary education. The result of that invitation was a meeting of fifty or more schoolmasters, who gave the board extremely good advice which is now being elaborated into a project which promises to afford the basis of a better relation between the university and the fitting schools than has yet been devised. The aim of the plan is to take into account in our entrance requirements all the higher work of the secondary schools. I personally hope that it may extend from shopwork to Greek, on the theory that it is not so important what the student does as how he does it, and that we wish all the possibilities of his intellectual development to be attended to. If this plan can be arranged, and there seems, at present, reason to hope that it may be, we shall then have at least one gate by which the graduates of our secondary schools may find an uninterrupted path into the several branches of the university.

The following motion was passed without a dissenting vote shortly before the Association adjourned. Voted: That the Association express its general approval of the plan referred to by President Eliot for securing uniformity of college admission requirements, namely, that a Board of Examiners organized by a group of leading colleges be established, with a view to securing uniform admission requirements by subject and a more uniform enforcement of requirements.

PAUL H. HANUS, Secretary.

V

THE SPIRIT AND IDEALS OF THE UNIVERSITY OF MICHIGAN, (II)

The catalogue of 1852–53 contained the following: "An institution cannot deserve the name of a university which does not aim in all the material of learning, in the professorships which it establishes, and in the whole scope of its provisions, to make it possible for every student to study what he pleases and to any extent he pleases. Nor can it be regarded consistent with the spirit of a free country to deny to its citizens the possibilities of the highest knowledge." This statement was accompanied by the promise that at an early date graduate courses of lectures would be opened; and, as a matter of fact, twenty courses of such lectures were announced the same year. One mark of German influence at this time is the great prominence of "lecture" and "lectures" in the university publications as compared with contemporary documents of the same sort. But for the time little came of this attempt to anticipate the future. Neither the university nor its constituency was then ready for real university work. Still from this time the university courses stood regularly in the catalogue. It would appear that some of these lectures were given the ensuing year, for we read: "The university course is already, in part, opened in the Department of Science and Literature, where courses of lectures are given for those who have graduated at this or other institutions, and for those who in other ways have made such preparations as may enable them to attend upon them with advantage. These lectures, in accordance with the educational systems of Germany and France, will form the proper development of the university, in distinction from the college or gymnasium now in operation." From this time on the names of students answering to this description are met with each year. From 1867 to 1878 from four to fifteen resident graduates were enrolled annually. The last of these dates was another turning-point in the university history. The credit system was introduced, the rigidity of the four-year curriculum was much farther relaxed, and courses of advanced electives were offered to undergraduates. The real university idea was now taken up again, and with a zeal and resources that soon led to practical results. In no long time courses especially adapted to the needs of graduate students were offered, and the number of such students began to increase. Graduate work was carried on rather informally until 1892, when the Graduate School was duly organized, and placed under the management of an administrative council consisting of the heads of departments of the academical faculty. This step has led to the fuller separation of undergraduate and graduate work. The aggregate number of graduate students is relatively small, of course; at the same time their influence has come to be a considerable factor in the life of the university.

The same catalogue that marks the advent of Dr. Tappan in so many other ways informs the reader that the degree of Master of Arts will no longer be given in course, but will be conferred only upon Bachelors of three years' standing who shall pursue professional or general studies and pass an examination and read a thesis before one of the faculties. It is not now easy to tell how rigorously this promise was kept, but it is certain that the second degree was conferred upon graduates engaged in teaching or in professional studies without any examination whatever after this time. It was not until 1877 that the university resolutely set its face against granting the Master's degree in course and demanded of all candidates for those degrees real studies and real examinations.

The quick response of the authorities to popular feeling in respect to studies, or the liberal policy that they have pursued, has largely contributed to the upbuilding of the university. The acting-President in 1870 congratulated the Regents on the happy escape that had been made from the battle of the studies, which had so sorely vexed the peace of so many higher institutions of learning. Himself an accomplished humanist, and the honored head of the Latin department, he did not hesitate to say: "Had we persisted in maintaining, in exclusive possession of the ground, the old classical curriculum—so admirable in itself, and so perfect as a discipline antecedent to the university, yet always claiming to be the very substance of the institution, and obstinately resisting all new courses as rivals, or else admitting them only to a subordinate and almost menial position—we should have witnessed here that false and foolish antagonism which elsewhere has been provoked between classical and scientific studies, and which in a broad and liberal and true university would be absurd, and even impossible; and we should have found our university, or what in our old colleges is the same thing, its academic department, intrenched and fortified against all progress and itself the most obstinate foe to its own advancement."

Antecedently to a practical test, it might perhaps be thought that a State university would tend to low ideals of study and scholarship, as well as to a wide field. Experience does not sustain this view. Modern courses of study, practical courses, popular courses, if you will, are one thing; low standards of scholarship, or attainment, are quite another. The two things may go together, but not of necessity. Nor are Greek, Latin, and mathematics synonyms of thoroughness. The popular element has never been a drag upon the higher culture studies. On the contrary, the effort of the university to provide free teaching in those studies has been fully recognized and responded to by many of that class of citizens who could not otherwise have expected to see their children pursue those studies. The university has been considered, and is still considered, a bulwark of classical studies in the West. Efforts to raise the level of scholarship have commanded popular approval. Perhaps the first place where we should search for confirmation of the idea that a State institution is likely to incline to low standards, is professional schools. Here the facts tell their own story. In the Department of Medicine and Surgery the course has been successively raised from two years of six months, to two years, three years, and four years each of nine months. In the Law School the course has been extended from two years of six months to three years of nine months. In the Homeopathic College, the School of Pharmacy, and the Engineering Department the courses are four years, and in the College of Dental Surgery three years. There is little profit in comparing institutions that have grown up in such different environments as the old colleges of New England and the new universities of the West. It will suffice to say that while the modern, material, and practical elements of life may have secured larger recognition in the latter than in the former, the ideal elements have been by no means forgotten or undervalued. The influence is reciprocal; the university lifts up the State that maintains it.

Still other features of the free policy of the university should be mentioned. One is the total absence from the beginning of a marking system and a hierarchy of college honors, and a supreme reliance on natural incentives to secure study and win scholarship. Strictly congruous with this is the habit of throwing the student upon his honor and good behavior in respect to matters of college order and decorum, assuming that he is worthy of respect and confidence until he proves the contrary. College morals and manners have steadily improved at Ann Arbor, as at the other great institutions of learning; to apportion this improvement among the various causes that produced it would be difficult; but the free system that has been pursued, at least for many years, is no doubt an important factor. While the abolition of the dormitory system may have diminished college spirit, it has worked in the same direction. The same may be said of the practical disruption of the class system, owing to the general introduction of electives. Still another cause of the amelioration was the advent of women, which has certainly tended to the extirpation of the grosser forms of disorder. The early rule which required the attendance of students at church disappeared years ago, and such attendance became wholly optional. Daily attendance of students at prayers in chapel was required until

1872; then it was made voluntary. Last year daily prayers were discontinued, and a semi-weekly vesper service of a more elaborate character, conducted in University Hall, was substituted in their room, as is believed with advantage, attendance still remaining voluntary.

The year 1852–53 is marked by another novelty. It had been felt from the first that a theological faculty could not be established in a State university. Dr. Tappan now expressed the hope, which he often renewed in after years, that schools of theology might be founded at Ann Arbor. The different denominations, he said, might unite to establish common professorships in some departments of theological science; in other departments they would naturally choose to have separate professorships; but there would be obvious advantages in bringing all the learned faculties together at the university, around one general library, where students could, at their pleasure, attend university lectures while pursuing their particular professional studies. While this conception has never been realized, the independent halls, guilds, and Bible chairs, with their courses of lectures which several denominations have founded, are at least a partial fulfillment of the promise.

The question has been often asked whether, in the end, the States would give the State universities such generous support and such wise oversight as would secure for them first rank among the universities of the country. A still narrower question is: Will the States accord a liberal support to graduate study, or to real university work? Will the people favor the progressive elevation of these schools to real university rank? Or, on the other hand, will they insist upon their continuing, for the most part, to do mere gymnasial work, and so to remain mere popular colleges? What will the ultimate State university ideal be? It would be foreign to the present purpose to discuss this interesting topic. There seems no reason to fear that public opinion will require these universities to recede from the most advanced grounds that they have taken. In Michigan the past is secure. But while the State thus far has met all reasonable expectations, it cannot be held that the ultimate problem has been solved. The Graduate School is a question of the future, with a happy augury.

Still another question remains for the future to answer. This is whether a State-founded and State-managed institution of learning will draw to itself generous gifts of money and material from private givers, or whether such givers as a class will prefer to assist private institutions. This is an important question; no State is likely to deal with its university in a spirit so liberal as to make generous gifts a matter of indifference. There are citizens of Michigan who believe, rightly or wrongly, that the university has practically reached its maximum development as a State-supported institution. They say the time has come for men of wealth to come forward, bringing private gifts and endowments. Such views are sometimes met with in the press of the State. It would be curious to inquire whether these persons, or the same class of persons, did not entertain the same opinion ten or twenty years ago. However this may be, the university has received private and local gifts amounting to a half million dollars, and these gifts are commonly regarded as a prophecy of more abundant ones to be made in the future.

Perhaps what has been said relates too much to the external life and too little to the internal life of the university. While it is too late, if that be true, to mend matters much, a more searching inward glance may be given at the close.

The university campus, with its array of buildings constructed with small reference to beauty, and some of them with scarcely more reference to convenience, its numerous faculties, and its great army of students, presents to the observer an interesting subject of study. Altogether the faculties and students are a strong organization of intellectual life. Six professional schools, some of them among the best known of their kind in the country, with an equal number of professional faculties, are grouped around the academical faculty. Among the professors the old-fashioned "all-around" scholar is hardly to be found. Not only faculties, but professors within the same faculty, tend more and more to fall apart as specialization goes forward. The relations of teachers turn quite as much upon personal qualities as their departmental affinities. While, commonly speaking, the students enrolled in the professional schools are fitting for professional life, a considerable number of law students, and probably an increasing number, are looking ultimately to business rather than to the bar. But the heart of the university beats in the Department of Literature, Science, and the Arts. The literary students were first on the ground; their work is the most fundamental; they more than equal in number all others put together, and, although the other groups contribute characteristic elements, these still give the university its prevailing character. Again, the literary students as a body combine many and varied elements. Graduate students, while tending to absorption in their own specialties, and so to segregation, still mix with the upper classmen in lecture room, laboratory, and library, and exercise a strong and growing influence in turning the attention of undergraduates to graduate study. Candidates for different degrees meet in the same courses so far as these are common to them. If, as the classical professors would probably claim, the A. B.'s taken together are the strongest group of students on the ground, still their superiority is not very observable to professors who meet them in other lines of instruction. In fact, some strong students find an especial attraction in some of the other courses, which offer a wider range of electives.

The effects of electives are seen in many ways. Students vary widely in scholarship in the same studies, as well as in the choice of studies; the extremes of scholarship may not be further apart than formerly, but they tend more strongly to the extremes of the scale. It will hardly be denied by experienced college men that the old system kept classes more closely together than the elective system. Some students are preparing for professional schools or professional life; a still larger number perhaps are getting ready for teaching; some do not know just why they are in college, for the very good reason that they are not there for anything in particular; while another class, and a large one too, are in the pursuit of a liberal training as a general preparation for life. This analysis applies to the women as well as to the men, only it must be stated that, relatively speaking, the women are less numerous in the first and third of these classes than the men. The students respond to the common motives that move and inspire students in other universities. The tides of interest and feeling rise and fall much the same in all colleges, only in the very large ones students are less apt to become strongly attached to their instructors, to one another, and to Alma Mater. The question whether a State institution binds students to itself as strongly as a private one is interesting, but cannot be here pursued. The scale of social conditions is somewhat wide: the farm, the village, and the city, rich families, poor families, and those in moderate circumstances, are all represented. In former years the university, certainly as compared with the great schools of the East, was a poor boys' college; it is so to-day; but the rapid increase in wealth, and the marked elevation of the standard of living, have made, and are making, changes that are welcomed by some persons, deplored by others, and witnessed with conflicting feelings by still others. Apparently the athletic spirit is rising, and the Greek-letter influence, if it be not growing, is assuming more tangible forms, with results that are estimated in different ways by the older professors. The general introduction of electives has broken down the class spirit to such an extent that there are only two days on which the "class" is a matter of real interest, one being the day on which the class officers are chosen, and the other the day on which they appear in their official capacities under the Tappan Oak. It is possible that the relative number of students who do not know just why they are at the university is increasing; but the whole body represents a high average of purpose, application, and attainment. Of application, perhaps the best test is daily observation of the students who throng into the amphitheatre of the General Library to engage in general reading or to follow up the clews and references that their instructors have given them.

Michigan has always been a teaching university; the keynote has been instruction and not research. Conditions that are obvious without being enumerated, separate and apart from theories and ideals, have worked effectually to that end. At the same time much valuable original work has been done by members of the various faculties in the libraries and laboratories. The catalogue of the collection of books sent by the General Library to Chicago in 1893, with a view of showing the entire literary output of the university, while incomplete and unsatisfactory, still embraced the names of nearly one hundred authors who have taught in the university, and many hundred titles. But this is not all; research is a means of instruction. The seminary mode of teaching was first introduced in the year 1871–72 by Mr. C. K. Adams, then Professor of History. It had been suggested to Professor Adams by his study on the ground of the *Historische Gesellschaft* of the German universities. A little later the Professor of English Literature followed the example thus set. The name seminary, however, does not appear in the catalogue for several years—perhaps because the authorities were afraid of it. In time other professors fell into line, and for the last fifteen years the seminary has formed an important part of the machinery of teaching. There is good reason for thinking that no other American institution of learning introduced the seminary method at so early a date.

It is not improbable that some readers of this sketch will think that the university history, as recounted, abounds in large exaggerations of plan and promise. This is not at all strange. The first charter may seem curiously out of place in the Northwestern forests, while President Tappan's plans were far in advance of his time, being quite disproportionate to the means in his power for carrying them out. But it must be remembered that the year 1817 belongs to a time of inflated language; that great founders always draw large drafts on the future, their greatness appearing in their discernment of future possibilities; and still further, and what is even more to the purpose, that these large plans and promises were in no case borrowed from what American colleges and universities were at the time doing, but were always either the most advanced ideas of the time or distinct anticipations of the future. The American State university of to-day is the embodiment of a distinct idea. It is quite different in origin, maintenance, and ideals from the college of former or of present times. It has rooted itself strongly in more than half the States of the Union. It is keeping even pace, and promises to keep even pace, with these States in the progress of civilization. It is not unnatural, therefore, that Michigan men should reflect with some pride that, although their university is not the oldest of the State universities, it was the first to attract attention and to achieve large influence, and that it has furnished the general type to which not only the younger universities have conformed, but also the older ones, so far as they have proved to be largely successful.

B. A. HINSDALE

UNIVERSITY OF MICHIGAN,
ANN ARBOR, MICH.

VI

PROFESSOR JOHN DEWEY'S DOCTRINE OF INTEREST AS RELATED TO WILL[1]

One of the most valuable contributions to pedagogy thus far published by the Herbart Society is printed in the *Second Supplement to the Herbart Year Book* for 1895. In this document of thirty-eight pages Professor John Dewey makes a critical analysis of the idea of interest and discusses its relation to the will. It seems to me much the most valuable discussion of all that have appeared on this important subject. Professor Dewey thinks profoundly and writes luminously. His views nearly always provoke dissent, but a fruitful dissent. They open the subject in such a way as to lead the reader to take broader views, and sometimes to see new grounds on which he can defend his own previous thought. This is the remarkable feature in Professor Dewey's articles generally, and especially in the present article under consideration. He hits upon a new method of analysis of his subject which assists his reader in rethinking the problem. A series of fresh thoughts on this subject will arise in his mind and he will thank Professor Dewey, even if he still finds himself obliged to disagree with the conclusions drawn in the treatise before him.

I shall not attempt an analysis of this *Supplement* because an analysis would not do it justice. It is the special treatment of each item that is most valuable in this paper. Its logical structure of the whole is not so helpful. The acute analysis and sharp criticism of opposing views with regard to interest and with regard to the theory of effort; the doctrine of discipline; the stimulation and dissipation of energy; the direction of the attention of the child to his immediate surroundings or to a continuous investigation which summons before it the material which it has chosen to consider and neglects distracting things and events; the interest based on amusement and the interest based on genuine intellectual insight; these and many more things are very instructive. Still more instructive is the attempt of Professor Dewey to bend the doctrine of the will as original self-determination into—or affiliate it to—a form more favorable to the Herbartian doctrine of interest by the use of the technical term "self-expression." "An interest is primarily a form of self-expressive activity" says Professor Dewey: "if we examine this activity on the side of the content of expression of what is done, we get its objective features, the ideas, objects, etc., to which the interest is attached, about which it clusters. If we take into account that it is self-expression, that self finds itself, is reflected back to itself, in this content, we get its emotional or feeling side."

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[1] *Second Supplement to the Year Book for 1895:* Interest as related to Will, by Professor John Dewey of the Chicago University. Edited by Charles A. McMurry, Secretary of the Herbart Society. Pantagraph Printing and Stationery Company, Bloomington, Ill., 1896.

Here the will as a self which originates modifications in the stream of causality within which it finds itself, is looked upon as a self-expressive activity. Self-expression suggests interest. In fact it furnishes a ready-made definition for the fundamental interest of all interests. The self desires to express itself in order that it may become conscious of itself thereby. The self builds in the world of time and space an expression, a revelation, of itself; it in fact duplicates itself, makes itself an object for itself. This at once grounds the doctrine of interest on the most fundamental basis, the most spiritual that can be named.

One is reminded of the position of Hegel in his *Philosophie des Rechts*, who treats the will as a transcendental originator of new determinations in space and time and as a continual act of self-revelation. Hegel loves the form of the epigram, and especially that form of it which is pointed with tautology. Hegel sums up the world of morals and of political and social rights as the creation of the will in its attempt to will will. "The will wills will." In this whimsical epigram Hegel has indicated the profoundest of all insights into rights and morals.

He himself had discovered in it the key to the world of human nature and of material nature in his "voyage of discovery," *The Phenomenology of Spirit.* He found in that work that "revealed religion" is the religion of *a revealed God,* and not specially the religion which is communicated by any divinely inspired revelation. All the heathen religions teach a hidden God, who transcends not only humanity, but also intellect and will. The heathen divinities cannot reveal themselves in their fullness. But it is the expressed doctrine of Christianity that the true God reveals himself in all his fullness in the "Son of Man," not withholding anything as too high for revelation to his creatures. Plato and Aristotle saw clearly that if reason is the absolute first principle it must reveal itself in its fullness; hence they both say, "God is without envy"; meaning that God does not hold back anything as essentially above and beyond revelation. Therefore the Divine will wills into existence itself, reveals itself fully in another will—the will wills will. Hence arise images of the Divine in the world. God makes man in his own image: a living soul, a transcendental will also. God, as will, has willed wills. Now human wills have the same calling to express themselves, to will into existence a revelation of themselves as wills. Each human being therefore hungers most deeply to express his will in this universe and to make his mark, so to speak, upon time and space by so much as he acts with his will power upon the world; by so much as he becomes conscious of himself in experience. And his elementary consciousness is elevated, by means of thought and reflection upon his action, finally into what is called pure thinking by Hegel and Kant; into what is called by Aristotle *ϑεωρεῖν* and by Plato *Ἀνάμνησις* or reminiscence. This highest or pure thinking is the completion of the consciousness of the will. The will has expressed itself, and it has thought its way back to its pure self-determination. It has comprehended itself and become self-conscious. Aristotle's expression, Theoreia, may be translated *pure insight.* Plato's expression, Reminiscence, poetically implies that the self which was at the beginning of the progressive self-revelation is really found again at the end of it, and that consciousness is a sort of recovery of the true idea of itself.

This glib technical term, "self-expression," evidently has in the mind of Professor Dewey all of these implications and suggestions. He shows in the course of his paper that he sees the necessity of mounting from interest to a higher principle. Much of the Herbartian literature takes interest as an ultimate principle and does not become aware of its own procedure. For since many kinds of interest are denounced, the Herbartian begins to limit it to the sphere of moral interest, and to such subsidiary rivulets of interest as flow toward moral interest.

Here we come to the essential knot of the difficulty, which is this: The use of the general term "interest" leaves the Herbartian principle in an indeterminate form. I use the expression *indeterminate*, because the principle does not define sufficiently its content. For interest covers good, bad, and indifferent interests. Not so, however, with Professor Dewey's theory: with his introduction of the term "self-expression" he has introduced a higher and defining principle. Interest that lies along the line of self-expression is the desirable interest. The interest should be such that it appertains to this fundamental act of revealing the Divine will in the world—self-expression of all that is highest. Here interest is subordinated to a higher category, the Divine will or the self-expression of reason.

Much of what I have just named as the difficulty with the Herbartian doctrine has come in through this fact of the indeterminateness of the principle of interest. Interest has at first been commended in general terms—as if any or all sorts of interest are good. But immediately the Herbartian teacher has been compelled to draw limits, and in the end to confess that there are some interests which are directly in the line of the highest good; that there are other interests which are bad and lead only to the bad; and that there is a third class of interests that lead toward the good but by winding paths, reaching the good although through much tribulation and much that is bad or at least indifferent.

Looking at the career of man on the earth as a whole we say that human life is a discipline in individuality. The highest individuality will be obtained through righteousness and holiness in action, and through a knowledge of the ultimate truth in regard to the objects of the world and their final purpose. It is evidently not the object of human life blindly to conform to the Divine will. Individuality must get an insight into the rationality of the Divine will and thereby make it its own innermost conviction. The Divine will does not create the world in order that there may be an infinite number of puppets. God wishes to be reflected in his intellect and in his freedom; he therefore makes in the world a state of things which continually piques its inhabitants ever to discover deeper and deeper grounds and reasons for things as they are, and for the ethical standards which furnish the ideals by which things and events are to be reformed.

There is the same difficulty with the term "interest" that there has been with the term *pleasure* or *happiness*, taken as a technical term for the highest end of man. Hedonism is a doctrine which has played a greater part in the history of ethics. It is not of any use to attack hedonism by asserting that the true end of man is not happiness or pleasure. Any end that you may name, other than happiness or pleasure, will be at once cunningly seized upon by the Epicurean. He will inquire with a smile whether your highest object and aim in life does not secure the greatest sum of pleasure and happiness in the long run? Your affirmative answer seems to him a fatal admission of the triumph of his principle. So, with regard to the doctrine of interest which affirms that the pupil should be developed through his interest; that interest in short should be the first principle of the teacher; that he must make it his first and foremost endeavor to interest his pupils in what they are studying. If you point out a higher or highest object in studies—namely the acquaintance of the pupil with the rational order of the universe in which he lives; the attainment of wisdom and holiness—the advocate of interest will inquire with the same covert sarcasm whether this is not to be made interesting to the pupil—in fact whether it is not really the most interesting of all things, if rightly taught? The refutation of hedonism is not to be found in setting up an antithetic principle. It is not happiness, nor non-happiness, that should be regarded as the highest aim of man—"happiness is not," although Mr. Pope supposed it to be, "our being's end and aim."

The refutation of hedonism may be made without the fear of self-contradiction, if one approaches the subject by considering the undetermined character of the term "happiness"; taking note of the fact that happiness includes all grades and kinds, namely a temporary happiness which is followed by a permanent injury to the soul as well as a highest happiness which leads through manifold trial and suffering to eternal blessedness. It is evident that happiness does not contain within it the determining principle: it demands a higher principle in order to correct its own indefiniteness and vagueness. It is, to use the language of Dr. E. E. White, a "blanket" term. Under this blanket lie good, bad, and indifferent forms of happiness, and the person who sets up happiness as his highest principle must forthwith mention what kind of happiness he means. In order to define his chosen field of happiness, he must bring in a higher principle which relates to man's origin and destiny and to his realization of the Divine will in holiness and in the knowledge of truth. Then he will have introduced and justified his term "happiness," but at the same time will have subordinated it. Happiness is in this way proved to be a secondary principle by its own advocates.

Just so the principle of interest is a subordinate principle and it is shown to be such by its advocates, who attempt to point out what realm or sphere of interest is proper and to be encouraged. They make a study of the child's interest, and looking out upon the universe toward the careers which will arise from different species of interest, they select the kind of interest that leads in the surest manner toward human perfection in will and intellect. They also study the other kinds of interest and find out which of them will tend wholly toward the bad, and likewise which of them will lead by circuitous paths toward the good. In this way the Herbartians, and other advocates of interest as a principle of education, subordinate the principle of interest to a higher principle, namely the rational perfection of man, the attainment of full self-expression; the realization of the reasonable in this universe and the attainment of full self-consciousness; the discovery of the Divine as the final end of human endeavor.

Professor Dewey, as I have pointed out, saw this defect in the principle of interest from the beginning and provided for it in the philosophical groundwork of his thesis.

Dr. White calls interest a "blanket" term. Taken as indeterminate, it includes all kinds of interest and does not define any special form of it as the interest to guide exclusively in education. But on ascending to a higher principle in order to find a criterion for what to choose or avoid, interest becomes subordinate and also at the same time helpful. We first search for the rational purpose of civilization and we define the great objects of education in view of those purposes. Man reveals his true nature not as a child but as mature men and women, in the process of making world history. In the world history human nature is revealed in its height and depth. The objects of education become clear in its light.

Having selected as desirable goals the rational results in will and intellect, in manners and customs, habits and branches of knowledge, we have taken our first step in the theory of education. The next one, however, brings in the question of interest as a subordinate one. It says, "Now these high aims and objects must be made interesting to the pupil." He must feel that he is expressing himself in attaining these objects. Then interest appears again in a third form subsidiary to the second. This is child-study. For it now becomes necessary to study the child in order to find out what his actual interests are. We hold these actual interests up in the light of our first principle and see which of them lead directly to the highest education. We see likewise which of them are immediately and directly opposed to the highest education. Then we enter upon a large field of interests which are not obviously one or the other. Many of these will be found to lead indirectly to the highest. A perfect natural history of this field of interest will be of very great service in pedagogy. Froebel has himself contributed more than anyone else to this knowledge, but I do not see why it is not possible for the Herbartians to equal if not surpass Froebel by making discoveries and mapping out orbits in all stages of human growth from birth up to the close of the mortal career. It is evident that we must not only inventory and define the interests of the child, but that we must trace them through their entire evolution and discover whither they lead.

Goethe has said in his *Wilhelm Meister* that "Steep regions are only to be surmounted by winding paths." That whole book, *Wilhelm Meister*, is a tractate on education in the broadest sense. It utters the watchword of this epoch in which we find ourselves. Every individual is called upon to cultivate himself in order that he may enter into his heritage of the wisdom of the race. Goethe's insights into that middle ground of interests which contribute indirectly to the growth of the pupil are the most valuable contributions to education in modern times. Some highest things, like the steepest mountain tops, are to be approached only, or at least in a much more feasible way, by winding paths. Here is a very great question for pedagogy, and the Herbartians claim to have already pre-empted the field. All other schools of pedagogy will ask permission to assist in this great enterprise. Hitherto it has not been possible to secure a good understanding between them and the followers of the established order. But I believe that a new study of interest in the light of Professor Dewey's discussion, will lead to a mutual understanding and hearty co-operation. Interest must be acknowledged as subordinate to the higher question of the choice of a course of study that will correlate the child with the civilization into which he is born.

WILLIAM T. HARRIS

BUREAU OF EDUCATION,
WASHINGTON, D. C.

VII

CONCLUSIONS AS TO UNIFORM COLLEGE ENTRANCE REQUIREMENTS, REACHED BY THE CONFERENCES HELD AT COLUMBIA COLLEGE, ON FEBRUARY 1, 1896, AND THE FOLLOWING DAYS

The colleges represented were: Harvard, Yale, Princeton, Columbia, University of Pennsylvania, and Cornell. Six representative secondary-school teachers were members of each Conference. The full membership of the Conferences is given in the EDUCATIONAL REVIEW for March, 1896, pp. 305–307. The conclusions of each of the six conferences were unanimous.

LATIN

1. In any modified Latin requirements which may be recommended by this Conference, there should be no increase in the present requirements for admission to Yale and Harvard.

2. It is the sense of this Conference that the examination in authors should consist in part of tests on prescribed work and in part of tests on "unseen passages."

3. This Conference adopts as its recommendation concerning Grammar, I, b, II, 1 (so far as it relates to Grammar) of the Recommendation of the Committee of New England Colleges, (which read as follows):

I, b, "A thorough examination on a prescribed portion of Cicero's speeches (about 30 pages, Teubner text) directed to testing the candidate's mastery of the ordinary forms, constructions, and idioms of the language; the test to consist, in part, of writing simple Latin prose, involving the use of such words, constructions, and idioms only, as occur in the speeches prescribed."

II, 1, "The translation at sight of passages of Latin prose and verse, with questions on ordinary forms, constructions and idioms, and on prosody."

4. The Conference recommends that changes be made from time to time in the authors or books, or both, prescribed for admission to college.

5. The Conference recommends:

(1) That the amount of Cicero to be read in the preparatory schools be prescribed as follows:

In Cat. I, II, III, IV; *Pro. Leg. Manil.*; *Pro Arch.* or *Philippic* XIV.

(2) That the amount of Vergil be Books I–IV of the *Æneid.*

6. The Conference recommends:

(1) That there be a sight examination only in Cæsar and Nepos.

(2) That there be a sight examination on passages chosen from Cicero's Orations.

(3) That the sight examination in Latin verse consist of average passages chosen from Vergil and from Ovid's *Metamorphoses.*

7. The Conference recommends that the examination in prose composition be the translation into Latin of a connected paragraph, based (for the three years beginning with 1898) upon passages selected from the Second, Third, and Fourth Orations against Catiline.

8. The Conference recommends that the foregoing requirements go into effect in the year 1898.

GREEK

The following requirements in Greek were unanimously recommended by the Greek Conference.

I. *Grammar.* A thorough knowledge of the common forms, idioms and constructions, and of the general grammatical principles of Attic prose, to be tested by an examination on a prescribed portion of Xenophon (for the next five years Xenophon's *Anabasis*, Books I and II). The test is to consist in part of questions, in part of simple sentences set for translation into Greek; it may include also translation from Greek into English.

II. *Attic prose at sight.* Ability to translate at sight a passage adapted to the proficiency of those who have read not less than 130 Teubner pages of Attic prose. The candidate is expected to show in his translation an accurate knowledge of the forms and structure of the language, and an intelligent comprehension of the whole passage.

III. *Homer.* Ability to translate a passage from some prescribed portion of the Homeric poems (for the next three years, *Iliad*, Book I and Book II, vv. 1–493), and to answer questions designed to test the candidate's understanding of the passage, as well as question upon poetic forms, constructions, and prosody.

IV. *Homer at sight.* Ability to translate at sight a passage of ordinary difficulty from the *Iliad* or *Odyssey*, with the aid of a vocabulary of the less usual words.

V. *Composition.* Ability to translate into Attic prose a passage of connected English narrative, employing the more common words and constructions of some prescribed text. (For the next five years a candidate will be allowed his choice between a passage based on Xenophon's *Anabasis*, Books I and II, and a passage based on Xenophon's *Cyropædia*, Book II, Chaps. I to V, inclusive.)

Note 1. The work necessary for I and II, at least, can be done in two years, and may be offered for preliminary examinations.

Note 2. The requirement for composition (V) is here included among the subjects of the third year, because the Conference believes that it is well for a candidate to keep up his study of Attic prose during that year. But this shall not prevent a candidate, when properly certified by his teacher, from presenting composition as a preliminary subject at the end of the second year.

Note 3. The prescribed passages required by I, III, and V may be arranged from time to time by agreement between the colleges.

Note 4. This scheme shall go into effect in June, 1898.

Note 5. Any college which accepts this scheme of requirements for admission may, if it deems it necessary, set also an alternative examination for any part of it.

MATHEMATICS

The following resolutions were unanimously adopted:

1. That a formal examination in arithmetic as a separate requirement for entrance be dispensed with.

2. That a knowledge of the metric system and the ability to reckon accurately are to be presupposed.

3. That the entrance requirements in algebra shall be as follows:

Factors, common divisors and multiples, fractions, equations of the first degree with one or more unknown quantities, involution including the binomial theorem for positive entire exponents, evolution, the doctrine of exponents, radicals and equations involving radicals, quadratic equations of one or two unknown quantities and equations solved like quadratics, ratio and proportion, and putting problems into equations.

It was further unanimously agreed that where the subject is divided into preliminary and final examinations, the preliminary examination shall include and be confined to the following topics: Factors, common divisors and multiples, fractions, equations of the first degree with one or more unknown quantities, evolution, the doctrine of exponents and radicals, and that the remaining subjects named shall be required in the final examination.

4. That the requirements in geometry be as follows:

Plane geometry: Including the solution of simple original exercises and numerical problems.

It is understood by the Conference that the entrance requirements above noted are the minimum requirements in mathematics, on which it is hoped that the Faculties of all the colleges concerned will agree, and that any of the colleges is to be free to make such additional requirements as may seem best to its Faculty.

GERMAN

The following requirements were unanimously adopted:

In elementary German. (*a*) The rudiments of grammar, and especially with these topics: The declension of articles, adjectives, pronouns, and such nouns as are readily classified; the conjugation of weak and of the more usual strong verbs; the commoner prepositions; the simpler uses of the modal auxiliaries; the elementary rules of syntax and word order. The proficiency of the applicant may be tested by questions on the above topics and by the translation into German of simple English sentences. (*b*) Translation at sight of a passage of easy prose containing no rare words. It is believed that the requisite facility can be acquired by reading not less than two hundred duodecimo pages of simple German.

Practice in pronunciation, in writing German from dictation, and in the use of simple German phrases in the classroom is recommended.

Preparation for the elementary requirement need not call for more than one year's instruction of five periods per week.

In advanced German. (*a*) More advanced grammar. In addition to a thorough knowledge of accidence, of the elements of word-formation, and of the principal uses of prepositions and conjunctions, the candidate must be familiar with the essentials of German syntax, and particularly with the uses of modal auxiliaries and the subjunctive and infinitive moods. The proficiency of the applicant may be tested by questions on these topics, and by the translation into German of easy connected English prose. (*b*) Translation at sight of ordinary German. It is believed that the requisite facility can be acquired by reading, in addition to the amount mentioned under elementary German, at least five hundred pages of classical and contemporary prose and poetry. It is recommended that not less than one-half of this reading be selected from the works of Lessing, Schiller, and Goethe.

It is recommended that the candidate acquire the ability to follow a recitation conducted in German and to answer in that language questions asked by the instructor.

Preparation for the advanced requirement need not call for more than two additional years of instruction.

FRENCH

The following requirements were adopted by unanimous vote:

In elementary French. (*a*) The translation at sight of ordinary nineteenth-century prose.

It is important that the passages set be rendered into clear and idiomatic English. It is believed that the power of translating at sight ordinary nineteenth-century prose can be acquired by reading not less than four hundred duodecimo pages from the works of at least three different authors. Not more than one-half of this amount ought to be from works of fiction. This number of pages is to include not only prepared work, but all sight-reading done in class.

(*b*). The translation from English into French of sentences or of a short connected passage to test the candidate's familiarity with elementary grammar.

Elementary grammar is understood to include the conjugations of regular verbs, of the more frequent irregular verbs, such as *aller*, *envoyer*, *tenir*, *pouvoir*, *voir*, *vouloir*, *dire*, *savoir*, *faire*, and those belonging to the classes represented by *ouvrir*, *dormir*, *connaître*, *conduire*, and *craindre;* the forms and positions of personal pronouns, the uses of other pronouns and of possessive, demonstrative, and interrogative adjectives; the inflection of nouns and adjectives for gender and number, except rare cases; the uses of articles, and the partitive constructions.

It was the unanimous opinion of the conferees that the elementary grammar requirements represented the minimum of French grammar that ought to be required.

It was unanimously agreed that the wording of the requirements did not *preclude* the asking of direct grammar questions on the part of an institution that wished to enforce such requirement.

Note. Pronunciation should be carefully taught and pupils be trained to some extent to hear and understand spoken French. The writing of French from dictation is recommended as a useful exercise.

In advanced French. (*a*) The translation at sight of standard French.

It is important that the passages set be rendered into clear and idiomatic English. It is believed that the necessary proficiency in translation at sight can be acquired by reading, in addition to the elementary work, not less than six hundred duodecimo pages of prose and verse from the writings of at least four standard authors. A considerable part of the amount read should be carefully translated into idiomatic English.

(*b*). The translation into French of a connected passage of English prose.

Candidates will be expected to show a thorough knowledge of accidence and familiarity with the essentials of French syntax, especially the uses of tenses, modes, prepositions, and conjunctions.

The Conference, after fully discussing the matter of prescribing or even suggesting definite text-books or texts for both the elementary and the advanced requirements, were unanimously opposed to such prescription or suggestion; it was felt that it might be left to the French department at each college to answer at its discretion written requests for information on text-books.

Careful attention should be paid to pronunciation and the use of spoken French.

HISTORY

I. *Resolved*, That the colleges be requested to include in their requirements for admission a choice of subjects out of the following topics:

(1) The history of Greece to the death of Alexander, with due reference to Greek life, literature, and art.

(2) The history of Rome to the accession of Commodus, with due reference to literature and government.

(3) English history with due reference to social and political development.

(4) American history, with the elements of civil government. It is expected that the study of American history will be such as to show the development and origin of the institutions of our own country; that it will, therefore, include the colonial beginnings; and that it will deal with the period of discovery and early settlement sufficiently to show the relations of peoples on the American continent, and the meaning of the struggle for mastery—any two of these topics to constitute a required subject for entrance to college.

The Conference expects that for any one of the four topics one year's work of at least three periods a week, or an equivalent, would be necessary.

In the judgment of the Conference it is very desirable that Greek and Roman history be offered as a part of the preparation of every candidate. If any college finds it necessary to specify the particular subjects to be required, it is recommended that these two topics be named.

II. *Resolved*, That, in addition to the examination, satisfactory written work done in the secondary school, and certified by the teacher, should constitute a considerable part of the evidence of proficiency required by the college. It is suggested that this requirement may be met by the presentation of a notebook or bound collection of notes.

III. *Resolved*, That such written work should include practice in some of the following:

(*a*) Notes and digests of the pupil's reading outside the text-books.

(*b*) Written recitations requiring the use of judgment and the application of elementary principles.

(*c*) Written parallels between historical characters or periods.

(*d*) Brief investigations of topics limited in scope, prepared outside the classroom, and including some use of original material where available.

(*e*) Historical maps or charts, made from printed data and comparison of existing maps, and showing movements of exploration, migration, or conquest, territorial changes, or social phenomena.

IV. *Resolved*, That the examinations in history for entrance to college ought to be so framed as to require comparison and the use of judgment on the pupil's part, rather than the mere use of memory. The examinations should presuppose the use of good text-books, collateral reading, and practice in written work. Geographical knowledge should be tested by requiring the location of places and movements on an outline map.

V. *Resolved*, That the colleges (in cases where they allow history as an advanced option) be requested to accept any one of the four alternatives which follow, either as additional preparation for entrance or for advanced standing. For each of the alternatives will be necessary two years' work of at least three periods a week, or an equivalent.

1. A course in Greek and Roman history for those only who have offered English history and American history as an elementary subject.

2. A course in English history and American history for those who have offered Greek and Roman history as an elementary subject.

3. A course in the history of Europe from the Germanic invasions to the beginning of the seventeenth century.

4. A year's study of any of the elementary fields not already offered as an elementary subject; combined with a year's detailed study of a limited period within that field.

VIII

REVIEWS

Methods of mind-training, concentrated attention and memory—By CATHARINE AIKEN. With illustrations and appendix. New York: Harper & Brothers, 1896. 75 p. $1.00.

We have here the very antipodes of Herbartianism, and of everything else that we are accustomed to regard as belonging to the New Education. The methods of mind-training which this book describes and advocates are nothing more or less than exercises in formal discipline of the most formal type. This fact naturally commends the book to the lay mind, which rarely distinguishes between show and culture; and as naturally arouses "imperfect sympathy" in those accustomed to the consideration of education as a science. This fact should not, however, render it impossible for anyone to form an impartial judgment of this book in the light of its underlying theory, its end, means, and results.

The mind, as here conceived, is the tool which the student employs in mastering ideas. This tool may be whetted, as a boy whets his jackknife, in order that it may cut more easily. Time thus spent saves time. Twenty minutes a day at the grindstone more than pays for itself before night; just as a deep-breathing exercise in the morning gives deeper vitality for all day.

The specific end of this training is concentration of the attention, considered as a formal power or "faculty." The motives appealed to are innate curiosity, ambition, and a desire to excel; the enthusiasm of numbers is also counted on, though there is some individual work. The order of steps followed is, first, to quicken the perceptive faculties which lead to the power of observation and of reaching conclusions rapidly; secondly, to cultivate the habit of accuracy in seeing and hearing; and, thirdly, to cultivate the habit of discrimination.

The means to this end include exercises in numbers and arithmetic, music, drawing, spelling, and in the memorizing of literary selections. Much use is made of the revolving blackboard for "glance-work" in recalling the number, position, and relation of objects.

There can be no doubt that the system under discussion has been brought to a point of remarkable effectiveness. Its results have been witnessed by those prominent in education and letters. A college president speaks of it with enthusiasm. "The value of such work," writes a leader in American education, more guardedly, "I should certainly think was very great." Another says, "If I could have had that training when a boy, I should have put forty years into the last twenty." Among the results claimed by Miss Aiken herself are these: economy of time and strength, shortened study hours, broader comprehension and greater enjoyment; dull minds quickened, concentration secured, and a truer sympathy between teacher and pupil attained. Through the power of concentration the pupils are enabled to gain "a large amount of information," a "broader intelligence," the ability to master "countless classifications and technical words," more quickly and easily "when heard from the teacher's lips than when set to the task of committing to memory"; "and to hold the mind steady long enough at once to compass the conditions and meaning of the question," thereby avoiding discouragement, drudgery, and fatigue.

The exercises employed are, as a rule, devoid of mental nutriment, and calculated to appeal only to the lower forms of interest. If, in the higher stages, good literature is employed, it is not dealt with as good literature, primarily, but as stuff to be memorized. Many of the exercises are so entirely on the plane of sensation that it is hard to believe that such emphasis upon such things will not tend to give a glib and artificial habit of mind. One may easily imagine the abuse of such a system. For we become what we are drilled to become; and pupils sent to a school where "glance-work" is made a specialty will tend to be specialists in "glance-work," young Houdins, instead of lovers and thinkers. Granted that the evils of the old system are as alleged. Granted, too, that this kind of mind-whetting gives quickness and a certain acuteness. Is not this power in danger of being gained at the expense of time and at the sacrifice of higher ends? Are there not other ways of revolting against ineffective formal discipline than by multiplying devices for making discipline more effective by making it still more formal? When the new education shall have attained that degree of effectiveness which comes only with time and from trained teachers, will it not be able to attain results in character-building and mind-training satisfactory enough to render unnecessary work of this kind? The only warrant for the employment of such methods would be the proof that the mind cannot be quickened and sharpened by food rather than files. No such proof is adduced in this book, for the author takes issue only with the old system, the fault of which was that it neither fed nor filed. One point is lacking in the book which is vitally necessary to a complete estimate of its value: the relation of "mind-training" to education is imperfectly set forth. We are not told, for example, on what lines the interests of the pupils whose "minds" have been "trained" develop, and how the transition is made from the interest in *remembering*, in seven minutes' time, a passage of one or two hundred words, to the interest in the *meaning* of that passage and its relations to life. For while some virtue may reside in such devices judiciously employed in vital connection with legitimate instruction, it does not appear that they are so employed in this school, and they are not likely to be so employed anywhere. Making due allowance for the fact that the author's entire educational creed is not attempted to be given in her book, there still seems to be ground for suggesting that any book is in danger of misleading which identifies "education, moral and intellectual," with attention, and then lays emphasis only upon the formal side of attention. True, it is implied that "the teacher must labor to enlist the strongest and noblest feelings on the side of attention *to the most important and valuable subjects*"; but there is little or nothing in the "methods of mind-training" here set forth that is calculated to enlist such feelings or to direct to such subjects in an educative way. On the contrary, the whole trend of the book is against that deeper organization of the life, from within, which is the aim of educating instruction.

The author's style is somewhat lacking in literary quality. Instances occur here and there of the loose use of relative words and participles; of lack of clearness and precision, and of failure to observe logical sequence in setting forth the matter in hand. (See pages 19, 20, 21, 22, 23, 24, 26, 27, 32, 72, 73.) But the author speaks whereof she knows. Her claims, so far as they go, cannot be gainsaid. And there is that in what she says, and in the way she says it, that tends to carry conviction. For this very reason, the reviewer has felt it necessary, for conscience' sake, to point out what seem to him to be inherent dangers and vital defects.

WALTER L. HERVEY

TEACHERS COLLEGE,
NEW YORK

Concrete geometry for beginners—By ADELIA R. HORNBROOK. American Book Company, Cincinnati, 1895. 201 p. 75 cents.

Professor T. S. Aldis once said, "It is the fashion to talk of Euclid as being repulsive." Many persons do leave the preparatory schools with a real hatred for geometry. This hatred is surely not natural, for psychologists and mathematicians both tell us that every normally constituted mind should find delight in the reasonings of Euclid. Perhaps all teachers of mathematics will agree that the repulsiveness is not due to any defect in Euclid, but rather to defective methods by which the subject is approached and attacked. A large number of those who begin the study of Euclid without any preparation in the language or concepts of the subject will find it repulsive. The field of the unknown is too great. The pupil needs more of what may be called assimilative capital. And this capital he must have before geometry becomes anything to him but a jumble of words.

In view of these facts, good teachers everywhere have recognized the need of suitable material to be used in leading pupils through this necessary preparatory stage. During the past decade a number of good books suited to this purpose have appeared. One among the best of these is the book before me. The author, a teacher of mathematics in the Evansville High School, is a close and discriminating student of educational problems. The book is the result of practical schoolroom tests. "The aim of the work is to awaken gradually, by simple and natural methods, the mathematical consciousness of the child, and to guide his perceptions in such a way as to lead him to lay a firm foundation for demonstrative geometry by means of his own observations and inventions." A careful study of the book shows that the author has quite fully realized her aim. The opening chapter is on lines and angles. Definitions are introduced gradually and only as they are needed. This need is shown by some question or exercise which has grown naturally out of what has preceded it. A few simple geometric truths, capable of concrete verification, are introduced. In the following chapters—which treat respectively of circles, arcs and angles, rectangles, triangles and lines, quadrilaterals, ratio and proportion, polygons, circles and lines, and squares and cubes—the same general plan is followed, with the exception that a larger number of geometrical truths are introduced. Chapters 4, 7, 10, 13, and 15 are devoted entirely to what the author calls cumulative reviews. In these chapters all the facts and definitions previously given are reviewed in an attractive and interesting way. Throughout the book the exercises are varied in form, and so well graded as to progressively call forth the best effort of the child.

The book is designed for use in the grammar school, but may be used in the high school as preliminary to Euclid. This book, like all books of its class, contains more matter than seems to be really needed. There is danger that the work may be mistaken for an end, rather than a means to things higher and better. This fault, however, is one that is easily remedied by the teacher. Selections may be made and portions omitted. Another danger is that the pupil may be led to believe that an approximate proof or a special verification is mathematically correct. As a great English teacher put it, "All approximate solutions, if allowed at all, should be carefully labeled *poison*."

The book will certainly receive a hearty welcome from all teachers who are seeking more rational methods, and, if carefully and judiciously used, cannot fail to make more royal the road to geometry.

ROBERT J. ALEY

INDIANA UNIVERSITY,
BLOOMINGTON, IND.

The growth of the Idylls of the King—By RICHARD JONES, Ph. D., Professor of English Literature in Swarthmore College. Philadelphia: J. B. Lippincott Co., 1895. 161 p. $1.50.

The policy of the EDUCATIONAL REVIEW keeps it from discussing at length books which do not concern directly the art and practice of teaching. A few words, at least, however, must be said about Professor Jones's interesting monograph, on the plea that the *Idylls* are the natural reading of young lovers of poetry and the proper understanding of them therefore a necessary part of the equipment of every teacher of English. The author maintains that "any final judgment of Tennyson's *Idylls of the King* is inadequate, which, leaving out of consideration the history of the subject-matter of the poem and its treatment by other minds in our own and in other ages, regards it merely as the capricious creation of the poet, and not as the final form, for this generation at least, of wide-spread legends, centuries old." To be sure, the greater number of the readers and admirers of the poems love them and profit by them without the slightest knowledge of their sources. The people take works of art as they will, caring little what was the intention of their authors or the methods employed in producing them, and it is an open question whether all the researches of philology have made the *Iliad* or the *Canterbury Tales* or *Faust* a whit more effective to the people at large. But there is also the cultured and curious reader to be reckoned with, who keeps his eyes fixed on the "sources," and who gets from the *Idylls* not merely an æsthetic pleasure but historical and philosophical information. He contemplates the growth and development of the legends, inspects Tennyson's handling of his material, and finds the changes he made in proof-sheets and in later editions significant of changes in his attitude toward the world. Such wisdom, which we all crave, Professor Jones has patiently gathered for us and now expounds clearly to us. He has systematically collated Tennyson's revisions, and so marshaled the long lists of variations as to show the exact process of growth and change in Tennyson's plan—a process that gives us a precious glimpse into the character of Tennyson and into his conception of the value and meaning of his work.

G. R. CARPENTER

COLUMBIA UNIVERSITY

Lessons in the new geography—By SPENCER TROTTER, M. D., Professor of Biology in Swarthmore College, Pennsylvania. Boston: D. C. Heath & Co., 1895. 182 p. $1.00.

It is a fortunate thing that there are publishers who have the courage to undertake works viewing the science of pedagogics in its higher aspects. Especially is this true in the case of a book that has no appointed place in a course of study, or whose use is not made compulsory. Of the multitude of pedagogical books—good, indifferent, and bad—perhaps one in twenty pays the cost of publication, while scarcely one in one thousand may be considered a good investment from a financial standpoint. Some of the best books of this class are almost unknown to the great army of teachers: yet paradoxical as it may seem, it is apt to be the unknown and unfamiliar book that exerts the widest and most far-reaching influence.

Dr. Spencer Trotter's *Lessons in the new geography*, a revised and enlarged edition of which has just appeared, is a book that may be properly ranked among publications of this class. It is the thoughtful work of a thoughtful teacher of teachers. It comes at an opportune time, and, still better, it is free from the humbug and empiricism of method fads.

It is opportune because in the matter of geography-teaching we are in much the condition of a scout who, having lost his bearings, has discovered a trail leading to his camp, although he may yet be a long way from it. That is, we are opening our eyes to the fact that geography as correlated to humanity is the aspect of the science to be presented to the student, though we are yet far from the practice of it.

Just why Dr. Trotter should call it the *new* geography is not plain, for it is this very aspect that geographers have long insisted on as the proper one and that a large class of educational reformers has quite as effectively resisted. Within the past few years, however, a great many enterprising and progressive teachers are beginning to realize that chapters in history are often nothing more than quantitative expressions of geographic laws—that, to be studied intelligently, geography must demonstrate the mutual relations of earth and man.

It needs only a casual inspection of his book to convince one that Dr. Trotter is full of his subject. He is charged to the muzzle and he gets to the bull's-eye of the target with a plunk that tells. Some of his paragraphs are of the nature of aphorisms; for instance:

"Never lose sight of the cause and the effect. Facts are the raw material of thought, to be transformed within the man and to reappear glowing with his personality."

"When you read, read widely. History, travel, poetry, romance, biography, as well as biology and geography. Each in some way will light up the mind and help to clear the mists of ignorance. Lastly, come into contact with the living world. Touch it on every side. Books and study will soon wither the intellect unless the man or the woman be alive to all the impressions that come to them from the great world of humanity and nature."

The author's assertion that what he pleases to term the "old geography" is dead and fossilized must be taken as an exaggeration. The old geography is neither dead nor sleeping. That it carries an unnecessary amount of useless lumber, however, is apparent; but it is fundamentally good, and it must always remain the basis of scientific study. When the industries interwoven with human life are interpreted in the light of geographic laws, the old geography becomes the new science; it is an evolution, not a revolution—an expansion, not a substitution.

And here is the pitfall into which many educators have tumbled headlong. In order to get away from the dry side of geography, a kind of literature only a remove from fairy stories is substituted for the facts that sooner or later every child will be called upon to know. A certain amount of memory work is as essential in studying geography as in mastering a foreign language, and no amount of nature stories can be a wholesome substitute for it.

So superficial and slipshod are some of the recent efforts posing as the new geography that it would not be worth noticing them were it not for the mischievous results arising from their use; it is new only in being novel. Even some of the latest text-books have missed the mark sadly. The descriptive geography is there, and interesting stories about mankind are there; but there is no correlation of the two.[1]

Now, it is this question of the correlation of earth and man that Dr. Trotter brings out so prominently in his book. He is clear about it, and he writes to the point; and the sooner that teachers of geography follow out his line of thought the sooner their work will become effective. It is interesting to learn, for instance, that, in the United States, the density of population falls rapidly at a line closely approximating the 2000-foot contour; but the important thing to learn is the fact that at this contour the rainfall decreases to such a degree that the grain crops cannot be successfully raised. Here we have the geographic fact and the question of correlation properly brought togther: and not till then does it become useful knowledge.

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[1] In the past, the writer must also confess to having been considerable of a sinner in this respect.

This is the sort of work that the author of the *Lessons* insists upon, and it is not necessary to add that he writes with the knowledge of a thoughtful scholar and the judgment of a genuine teacher.

The book with its handsome typography, its clear presswork, and its tasteful cover of linen and buckram is in keeping with the more recent publications of Messrs. Heath & Co.

JACQUES W. REDWAY

MOUNT VERNON, N. Y.

NOTES ON NEW BOOKS

Mention of books in this place does not preclude extended critical notice hereafter

The new edition of the German-English and English-German Dictionary, based on Flügel's *Wörterbuch*, edited by Schmidt and Tanger, is easily the fullest and most useful of the popular German dictionaries. The additions and changes in this edition are so numerous and important that it is really a new work. The book itself is a triumph of the printer's art, and the clear, open type is most pleasing to the eye. This dictionary should go into thousands of homes and schools (New York: Lemcke u. Buechner, 1896. 2 vols. 1000, 968 pp. $4.50).——The reprinting of Mr. Abbott's scholarly translation of Kant's *Fundamental principles of the metaphysic of ethics*, in convenient form and at a low price, will be applauded by students and teachers of philosophy and ethics. The treatise is absolutely indispensable to a thorough knowledge of Kant's thought (London and New York: Longmans, Green & Co., 1895. 102 p. $1.00).——The latest issue in Longmans's unsurpassed Series of English Classics is Coleridge's *Rime of the ancient mariner*, with an introduction and notes by Mr. Herbert Bates of the University of Nebraska (New York : Longmans, Green & Co., 1896. 88 p. 45 cents).——Mr. Glazebrook has made a decided success in popularizing and making clear a very difficult subject in his book on *James Clerk Maxwell and modern physics*, the new addition to the Century Science Series. It is by books like this that our half-baked students of modern science will be led to study their subjects in an historical and comparative way that will add immensely to their culture-value (New York: Macmillan & Co., 1896. 225 p. $1.25).——Frances Mary Buss exercised a wide and helpful influence upon education in England, and many teachers in America may derive inspiration and instruction from the story of her life as told by Miss Ridley (London and New York: Longmans, Green & Co., 1895. 400 p. $2.25).——Dr. Hinsdale has reprinted in a goodly-sized volume his chief contributions to current educational literature since 1885. His *Studies in education* are marked by the force, scholarship, and caution that his colleagues so gladly recognize and so highly appreciate (Chicago: Werner School Book Co., 1896. 384 p. $1.00).——General Greely's *Handbook of Arctic discoveries* tells pleasantly and concisely the thrilling and instructive story of the polar explorations from the early voyages in search of a "northwest passage" to the present. Teachers of geography will find it especially useful (Boston: Roberts Bros., 1896. 259 p. $1.00).——President Hervey's *Picture-work* is a very straightforward and practical treatment, for teachers and mothers, of the use of illustrative material in elementary teaching and Sunday-school classes. It is a helpful tract and deserves a wide reading (Meadville, Pa.: Flood & Vincent, 1896. 91 p. 30 cents).——Good things follow hard on one another in the Riverside Literature Series. The latest issues are *Hawthorne's House of the Seven Gables* and Swift's *Gulliver's Travels* (Boston: Houghton, Mifflin & Co., 1896. 378 p. 60 cents; 193 p. 40 cents).——A happy suggestion is well carried out in *The Brownings for the Young*, by Frederic C. Kenyon, formerly of Magdalen College, Oxford. It is a careful selection from the poetry of Robert Browning and of Elizabeth Barrett Browning "for those who are, comparatively speaking, beginners in the study and enjoyment of poetry." (New York: Macmillan & Co., 1896. 203 p. 40 cents).——*Fritz auf Ferien* deserves a warm welcome from American schoolboys. It is a wholesome story, full of boyish humor and excellent material for training in colloquial German (Boston: D. C. Heath & Co., 1896. 57 p. 20 cents).——Professor Edward Channing of Harvard has made a noteworthy text-book in his *United States of America*, 1765–1865. It is compact, well-proportioned, and well-made. We shall notice it at length later (New York: Macmillan & Co., 1896. 352 p. $1.50).

X

EDITORIAL

The long fight to free the public-school system of New York City from the control of a clique and of petty political bosses is ended. The battle has been won. Good citizenship and patriotism asserted themselves and, with the powerful aid of a unanimous press, created and organized a public opinion that was irresistible. The opposition grew meaner and more unscrupulous as the end approached. Misrepresentation and appeals to bigotry and prejudice have always been its favorite weapons, but during March and April no lie was too preposterous and no slander too silly to be sedulously circulated. The teachers were told that the reform bill removed them all from office immediately on its passage; that hereafter all public-school teachers must wear a uniform; and that graduates of private schools and colleges would in future be preferred in making appointments. These clumsy inventions, and others like them, show the desperation and the wickedness with which the "ringsters" fought to retain their spoils. They were willing to worry and frighten the four thousand teachers for whom they express such profound concern, in order to make a point against the reformers.

But untruthfulness, blackguardism, and demagoguery availed them nothing. On March 31 the Senate passed the school bill by the decisive vote of 31 to 13. This conclusion was reached after five hours of debate, in which Tammany Senators Cantor, Ahearn, and Grady surpassed all of their previous records. That no one of them had read the bill, and that they were not even familiar with the existing school administration in New York, became apparent as the debate proceeded. Senators Stranahan, White, Pavey, and Ford were the principal speakers for the bill. Senator Ford made a terrific onslaught on the school system as Tammany had conducted it. Senators Pavey and Stranahan spoke with full information and irrefutable logic; while Senator White supported the bill in a speech that for scholarly finish, as well as for force and mastery of all the facts, has rarely been equaled in the legislature of New York.

The Assembly, under the leadership of Speaker Hamilton Fish, who has always been a strong advocate of the school-reform bill, acted promptly. The Cities Committee reported the measure favorably on April 2, and its consideration was made a special order for April 7. On that day the Tammany tactics in the Senate were repeated in the Assembly, and with a like result. The bill passed by an overwhelming majority, the vote being 88 to 43. This splendid result was brought about by months of a campaign of education, and by the inspiring and conclusive speeches of Assemblymen Austin, Laimbeer, and O'Grady.

Under the provisions of the new constitution the bill was then sent to Mayor Strong, who, after listening patiently to all that the trustees, the boss-ridden teachers, and their political friends had to say, accepted it on behalf of the city on April 23. It will become a law when it receives Governor Morton's signature, which will doubtless be appended to it before this reaches our readers.

This gratifying conclusion of a long and weary contest is due primarily to the intelligence, public spirit, and determination of a group of men and women who have kept up the fight for years. They have never permitted themselves to be discouraged by temporary defeats, or disheartened by apparently insurmountable obstacles, or deflected from the plain path of duty and public service by ridicule or abuse. In Governor Morton, Mayor Strong, and the legislature of 1896, men were found willing to listen to argument on this school question, and independent enough to act promptly and decisively upon their convictions. The combination of these forces made victory possible. On July 1 the ward trustee system ceases to exist. It has for years sheltered incapacity, favoritism, political chicanery, and extravagance. It has effectually prevented any genuine supervision of the schools or any efficient organization and operation of the system as a whole. Where good schools are found in New York, they exist in spite of the trustee system; where bad schools are found, they are traceable directly to it.

A new era now dawns for the New York teachers. Their self-constituted and self-seeking leaders have deceived and injured them. Owing to the action of these leaders, the teachers—the great majority of whom are sincerely laboring for the best interests of the children in their care—have been put in a totally false light before the public. Their leaders and spokesmen have caused them to forfeit public confidence. They have been induced or ordered to sign petitions that recited lies and to attend meetings where lies were deliberately told to them. But their future is in their own hands. If they will eschew politics and wire-pulling, devote themselves to their school work, and turn their backs upon those commissioners, ex-commissioners, trustees, and principals who have misused and abused their confidence, they will find public confidence in them speedily restored. They will then have the weight that belongs to them in molding the public opinion of the metropolis. But their selfish and ignorant leaders must be sent to the rear.

To learn how selfish and how ignorant some of these leaders have been would astonish even the professional politician, used as he is to duplicity and intrigue in all their forms. One principal, for example, who has thrust himself forward at every opportunity as a bitter and unrelenting opponent of the reform bill, has at the same time been intriguing to secure an appointment as assistant superintendent under its provisions. Another principal stated to his teachers, publicly, the deliberate untruth that the bill provided for the appointment of sixty assistant superintendents of schools at a salary of four thousand dollars a year each. Page after page of this REVIEW could be taken up in reciting similar instances of knavery.

It is worth while noting, too, how completely the ward trustees, and their tools among the teachers, underestimated the force with which public opinion was running against them. When Governor Morton sent to the legislature a special message on school reform, it was due to "social influence"; when the Senate Committee reported the reform bill favorably, it was because of "intrigue"; when the newspapers unanimously supported the measure, it was ascribed to "muzzling"; when both houses of the legislature voted overwhelmingly for the bill, it was "politics" that did it; and finally, when Mayor Strong accepted it, he had been "hoodwinked." The simple, concrete idea that they had no case and were overwhelmed with argument never entered their heads. To argue the matter was furthest from their thoughts; "pull" was the only thing that occurred to them, and New York has witnessed the shameful spectacle of women principals and teachers calling upon the most unscrupulous political "bosses," and imploring these "bosses" and their wives to prevent the passage of the bill. After such a sight as that, to say that the reform bill introduced "politics" into the schools is the merest effrontery.

The new school law contains a provision that will develop local interest in the schools and foster local pride in them to the full. It provides for school inspectors to be appointed by the Mayor in and for the several inspection districts into which the city is to be divided by the board of education. While the local trustees were the dispensers of patronage and soon drifted into politics, the inspectors will have no teachers to appoint and no contracts or jobs to give out. But it is their duty to visit the schools, to hear complaints of children and parents, to see that the school laws are enforced and the sanitary regulations obeyed. Quarterly reports to the board of education will tell of these things; and so every section of the great city can readily make its voice heard at the central office. This local inspection system has worked well in Europe, and it will doubtless be of benefit here. It permits a single authority to license and appoint teachers and to disburse the school moneys without impairing local interest and local pride.

One of the amusing incidents of the closing weeks of the school-reform campaign was the strenuous attempt to identify in some way with the contest a little-known magazine writer, who is sometimes jocularly referred to as an "expert in pedagogy." Some of his alleged friends have made him ridiculous by claiming for him the discovery of the need of school reform in New York as well as the formulation of the reform plan. These persons are ignorant of the fact that the movement which has just come to a successful issue began in 1881, and that the first Public Education Society grew out of it in 1888.

In this connection the following paragraph from the *School Journal* of April 18 is of interest:

> Its principal features [those of some scheme prepared by the writer in question] were embodied in a bill prepared by a special committee of the Committee of Seventy, which was organized to bring about needed municipal reforms. . . No credit was given to the author of the plan at the time, though whole passages from the *Forum* article were 'cribbed' . . . The politicians got hold of it [the Committee of Seventy's bill], introduced a number of objectionable details, and edited it after their own peculiar fashion, so that in the end it became unpopular and was shelved.

The above paragraph contains three sentences. Each sentence makes a statement that is contrary to fact. If this is the result of ignorance, the paragraph is misleading; if it is the result of intent, the paragraph is untrue.

The addresses and principal discussions presented at the fifth annual meeting of the Harvard Teachers' Association, which are published entire in the present number of the REVIEW, deal with a topic that is just now receiving a good deal of attention among college and secondary school men in the Eastern and Middle States. Although the topic carried the name of "A wider range of electives in college admission requirements," the subject could have been justly called, "The closer articulation of secondary and collegiate education," for the meeting was another recognition of the desirability, daily becoming more obvious, of promoting any good plan for the articulation of the school and the college; so that while the schools discharge their independent function of furnishing a secondary education adapted to the needs of young men and young women living in the nineteenth century, they may at the same time—but incidentally—continue to fulfill their traditional function of preparing their pupils for college.

It was apparent throughout the entire discussion that although the sub-topics named for special consideration were only two in number, and while the speakers therefore confined themselves especially to those topics, these restrictions were imposed only by the time-limits of a single meeting, and that what was sought was really a greater range of subject matter, properly taught, which, under appropriate relative "weighting," could be accepted by all colleges toward satisfying their admission requirements.

This was clearly brought out by President Eliot in opening the discussion on the general topic. He pointed out also that there are three important matters to bear in mind in approaching the consideration of the whole matter; first, that the time has come when both the colleges and the schools "may expect a large addition to the old-fashioned requirements for admission," as regards the range of subjects thought to furnish proper preparation for college or "higher education"; next, that we need a mode of attaching to the new subjects as to the old, a just valuation for admission purposes; and thirdly, that we shall need a method capable of securing tolerably uniform enforcement of new and old requirements.

The papers by Mr. Grandgent and Mr. Bergen are strong pleas for the adequate recognition of their respective subjects, as substantial subjects for secondary schools, and hence as subjects capable of furnishing adequate training in preparation for college work. Mr. Grandgent's paper is marred by no disparagement of the classics as compared with the modern languages, but he does insist on the wisdom of teaching the modern languages, first, during the earlier years of the pupil's school life on the ground of facility and accuracy of acquisition, practical utility, and general culture, and also as a preparation for college work, including the study of the classics. Mr. Bergen's vigorous paper was a revelation to some persons who remember the botany of their school or college days and who have not kept pace with the progress that the teaching of that subject has made. The subject loses none of its earlier charm because it now receives scientific instead of dilettante treatment, but it has gained enormously in virility, and hence in usefulness as a means of training both in school and college.

The discussions that followed the principal addresses, with perhaps one exception, showed no conspicuous differences of opinion, and for the most part served to emphasize the positions already taken in the addresses. This unanimity of opinion in a representative gathering of school and college teachers cannot fail to promote the consummation of the desired changes in the present college admission requirements. The first important result of such changes will be, of course, to improve the teaching in the newer subjects, in the secondary schools. As long as the shadow of collegiate disparagement, or at least of indifference, rests on certain subjects or groups of subjects in the secondary schools it is vain to hope that those subjects will receive either the time or the attention they deserve. And the second result of such changes will be no less important; it will be that close articulation of secondary and higher education the consummation of which this and other recent meetings and conferences are intended to promote.

President Eliot's suggestion, embodied in his opening address, concerning the desirability of establishing a Board of Examiners representing a group of leading colleges, opens an interesting field for the co-operation which has lately come to be so important a means of dealing with educational questions. There can be no doubt that the realization of such a plan would be of great advantage to the country. The present difficulty of securing uniform enforcement in college admission requirements by the colleges would probably be largely removed. Moreover, with such a plan all the inconveniences to the schools arising from peculiarities in the methods of enforcing both new and old requirements could be entirely obviated. The Association expressed its general approval of the plan by a unanimous vote.

It is interesting in this connection to add that more than three years ago a resolution looking toward the establishment of just such a Joint Entrance Examination Board, was proposed to the faculty of Columbia College and laid over at the introducer's request on the ground that the time for its adoption had not then come. In February of the present year the resolution was taken up and passed without a dissenting vote. So that Columbia College is already officially committed to the plan.

State Superintendent Skinner of New York continues to signalize his administration by important advances in the development of the common-school system of the State. Far from being satisfied to hold the ground already gained, he is constantly planning new developments. The latest of these, and one of the most important, resulted in a conference between Superintendent Skinner and Mr. Downing of his staff, and representatives of the colleges of the State. Columbia, Cornell, New York University, Vassar, Hamilton, Syracuse, Rochester, Colgate, Union, and Wells were represented. The object of the conference was to consider a plan submitted by

Mr. Skinner by which college graduates, having received instruction in the theory and practice of education, shall be given first-grade State licenses. These licenses are valid for three years, and are then renewable for life, without examination, if the holder's teaching experience has been satisfactory. The importance of such an arrangement is apparent. College graduates ought to be found in the public-school service in far greater numbers than at present. That they are not found there is due largely to the fact that their scholarship and training have been discriminated against in the rules governing teachers' licenses. Obviously, a college training alone does not equip one for teaching; but a college training, plus a careful study of the principles of education and some contact with its practice, does give the desired equipment. It is this that Superintendent Skinner proposes to recognize. Colleges that have well-established departments of education can take advantage of it at once. The others must develop their educational courses so as to enable them to profit by the new departure.

The minimum to be insisted upon by the State Department of Public Instruction will probably be (1) satisfactory courses in psychology, logic, and economics, and (2) about thirty weeks of instruction in the history, principles, and practice of education. Formal announcement of this minimum will be made within a few weeks.

Dr. C. C. Van Liew of Normal, Ill., has two carefully prepared and judicial articles on contemporary educational movements in this country, in the two last issues of the *Zeitschrift für Philosophie und Pädagogik*. The first deals with the child-study movement, and the other with the Cleveland debate on correlation, and the subsequent discussions on the same subjects.

It is announced by *The Nation* that the Prussian Academy of Sciences intends to publish a complete and critical edition of the works of Kant. The labors of Benno Erdmann, Vaihinger, Adickes, Reicke, and others, have made such an edition necessary, and have provided a large amount of material for it as well.

The universities of Heidelberg and Tübingen have recently conferred the degree of doctor of philosophy upon women.

Preparations for the Buffalo Meeting of the National Educational Association are going on rapidly. The executive officers are working hard, and a local organization of great strength and activity has been formed in Buffalo. The general programme, which is almost ready for publication, will contain the names of Professor Brander Matthews of Columbia University, Professor W. P. Trent of the University of the South, President Jordan of Stanford University, Bishop Vincent, Bishop Spalding, President Draper of the University of Illinois, and others as well known and distinguished. Unless all signs fail the attendance will exceed that at Denver.

An extremely important conference on child-study will be held at the Chicago and Cook County Normal School on May 14, and the following days, under the auspices of the Illinois society. The feature of the meeting is to be not the reading of papers, but the bringing in of experiences by the members themselves. The meeting is certain to be very profitable.

At Jacksonville, in February last, the Educational Press Association elected the following additional members:

American Journal of Education, ...	St. Louis, Mo.
Educational News, ...	Newark, Del.
Iowa Schools, ...	Des Moines, Ia.
Interstate Review, ...	Danville, Ill.
Journal of Pedagogy, ...	Binghamton, N.Y.
Kindergarten News, ...	Springfield, Mass.
Pacific Educational Journal, . . .	San Francisco, Cal.
Teachers' World, ...	New York, N. Y.
Western Teacher, ...	Milwaukee, Wis.
Wisconsin Journal of Education, ...	Madison, Wis.

The Outlook has rendered splendid service in the fight for the redemption of the New York City public schools. Its issue of April 4 contained an editorial article on "The Poor Man and the Schools," that made a profound impression upon the community.

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